

Manuscript Details

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Title	A review of the establishment of land bank institution in Indonesia for effective land management of public interest
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Abstract

It is not easy to get a decent housing for low-income people (LIP) due to the limitation of land available for development in the urban areas allows speculators to retain the benefits of land in an unregulated commodity business. This study reviews the legal basis, land use issues, land bank, land supply models and affordable housing price to get better understanding on the provision of land for the construction of infrastructures to serve public interest and for the development of affordable housing for LIP in the urban areas. The establishment of land bank institution in Indonesia is considered important to accommodate the need of lands in the urban areas for a wide array of purposes. The analysis of landless housing prices in the Jabodetabek region for the development of five-story residential building can save more than 50% of income toward the necessity of affordable housing for LIP and this contributes to get better understanding on the decision making process by the provincial government of Special Capital Territory of Jakarta.

Keywords	affordable housing; Jakarta bay reclamation; land bank institution; land supply model; legal basis; low-income people.
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Ho Chi Minh City, 10 February 2020

Journal: Land Use Policy

Title: A review of the establishment of land bank institution in Indonesia for effective land management of public interest

To

Prof. Jaap Zevenbergen

Editor

Land Use Policy

Dear Prof. Zevenbergen,

It is a pleasure to resubmit, on behalf of my co-authors, our manuscript entitled “A review of the establishment of land bank institution in Indonesia for effective land management of public interest” for consideration for publication in Land Use Policy. The material is original research, has not been previously published and has not been submitted for publication elsewhere while under consideration. The novelties in results/findings of this manuscript are to propose the land bank institutions in Indonesia for supporting the responsibility of the government to manage the lands for the developments of affordable housing for low-income people and infrastructures to serve the public interest.

The main text of this paper consists of 11580 words including the list of the references and 4 tables, and separately provided 6 figures. All authors concur with the submission and have seen a draft copy of the manuscript and agree with its publication and declare no conflict of interest.

This manuscript is the revised manuscript No.: LUP_2019_880 with a point-by-point response to the comments by the editors and reviewers below.

The manuscript has been submitted to your journal. We look forward to your positive response.

Sincerely,

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Comments from the editors and reviewers:

-Reviewer 1

Comments on “A review of the land supply models to land banking for affordable housing in Indonesia”

Section 1

1. In the introductory section, 2nd paragraph, the author makes a very strong statement, viz, ‘It is almost impossible to see how the government of Jakarta can build

affordable housing for the residents of Jakarta in order to provide a better service'. It is not clear whether it is the author's argument (in which case, this strong argument comes too early in the paper) or if the author is citing some other scholars, which seems to be the case given the citation provided, but it is not clear why this statement needed to be made in the context itself.

√ We have made the correction of the statement made by Widoyoko (2007): "It is almost impossible to see how the government of Special Capital Territory (DKI) Jakarta can build affordable housing for the residents of Jakarta city in order to provide a better service (Widoyoko, 2007)." to "The government of Jakarta may have many obstacles for building affordable housing for the residents of Jakarta in order to provide a better service to meet the principles of Pancasila due to the corruption has been around for five decades in the delivery of infrastructure services (Widoyoko, 2007)." (see Section 1 paragraph 2 page 2)

2. Similarly, already in the introduction section (in the 3rd paragraph, p.2), the author advocates for the private sector providing land and housing at affordable prices to the poor. But it does not offer any viable incentives for the private sector to do so. Private sector often plays by the rules of the market, and to do otherwise will not be in their incentives. The case for private sector to do so is not strong enough.

√ We have inserted the statement, as follows: "For a long-term solution, a viable incentive of LIP tax credit offered by the government to private sector to encouragingly invest in the provision of affordable housing must extend beyond regulatory compliance, while the incremental costs of providing social and public facilities might be partly met from public funds in the form of service payments for allowance of various benefits received from social and public facilities to residents of the residential complex." (see Section 1 paragraph 3 page 3)

3. The objectives of the article provided in the introduction section (p.2) are too wordy – and thus lack in clarity and preciseness. They need to be rephrased and simplified so that they become clearer.

√ We have rephrased to simplify the objectives of this paper, as follows: "The objectives of this paper are: (1) to review the existing evidence-based practices of legal basis, land use issues, land tenure arrangement models, and land supply models to get better understanding on the proposition of establishing the land bank institution in Indonesia and (2) to offer a new concept of the land tenure and distribution to ensure enough lands for the development of affordable housing for LIP and the construction of public infrastructures." (see Section 1 paragraph 3 page 3)

Section 2

4. The relationship (linkage) between the Indonesian Law and the high prices of land is not clear (...contrary to what the law regulates, the price of land becomes increasingly unreachable by the people...)

√ We have provided a clarification by correcting the sentence from "Contrary to what the law regulates, the price of land becomes increasingly unreachable by the people (Elmanisa et al. 2017)." to "Contrary to the Law No. 1/2011 on Housing and Resettlement Area that regulates the decent housing prices, the price of land becomes increasingly unreachable by the people (Elmanisa et al. 2017)." (see Section 2 paragraph 1 page 3)

5. Fig 1 shows, what the author calls ‘step-by-set guide for effective performance appraisal process to cause an increase in the price of land’. Is this a observation made by the author of the existing reality? If so, more specific evidences are desired to make this a stronger case.

√ We have made the improvement of the statement from “Figure 1 shows the reasons of step-by-step guide for effective performance appraisal process to cause an increase in the price of land becoming away from reachability of the people.” to “Figure 1 shows the paradigm shifts in the land tenure for the most public lands in Indonesia to deal with an effective performance appraisal process regarding the reasons of increasing the price of lands becoming away from reachability of the people.” (see Section 2 paragraph 1 pages 3-4)

6. In page 3 last paragraph, it is stated that certain ‘tycoons’ are given authority to deal with the management of approximately 5.1 million hectares of land. Evidence is needed for the categorization of ‘tycoons’, i.e. why does the author use this particular terminology? Also, it is not clear who has given them this authority. Or it this an attempt to highlight the skewed ownership of land, i.e, few rich landowners owning large pools of land? The former looks to be legal issue, where as the latter could be more of a socio-economic imbalance existing in the country.

√ The sentence has been improved from “The oligopoly (Coiacetto, 2009) of land ownership that controls the lands for plantation, farm, timerland and large real estate consisting 25 groups of the private company with a majority-owned venture by tycoons has been given enough authority to deal with the management of approximately 5.1 million hectares (Mha),” to “The oligopoly in real estate development (Coiacetto, 2009) of land ownership that controls the lands for plantation, farm, timerland and large real estate consisting 25 groups of private companies with a majority-owned venture by the tycoons has been given enough authorities by the local and central governments to deal with the management of approximately 5.1 million hectares (Mha),” and the statement of “Noted that tycoons are the persons of ethnic chinese in Indonesia who are successful in the property business and have become very rich and powerful through their ownership of the lands.” has been provided in the text. (see Section 2 paragraph 3 page 4)

7. Growth of any country is often lead by a vibrant private sector. That the private sector should provide affordable land and housing to the poor seems to sound too naïve an argument. The Private sector is profit motivated, and it does not usually operate for the welfare of the poor segment of the society, unless there is a strong incentive to do so. However the poor do provide cheap labour and do work that the other segments of the society do not usually do.

√ We have provided the statement in the text, as follows: “Role of the DKI Jakarta government in the provision of affordable housing to LIP is very important in the decision-making of developing the new resettlement areas with a concept of residential balance in accordance with the Decree of Minister of Housing Affairs No. 7/2013 due to the urban poor provides cheap labour and may handle typical works that are not usual to the rich.” (see Section 2 paragraph 4 page 5)

Section 3

8. There is a sudden jump to the issue of ‘land bank’. Some linking sentences either at the end of the previous section or at the beginning of this section would be useful. As it is, there appears to be a break in the flow of the narrative.

√ We have provided the statement at the end of Section 2, as follows: “Indonesia faces challenges with the land tenure issues in providing the affordable housing for LIP in the big cities and the opportunities to access and utilize the agricultural lands for the rural poor due to the increasing of land price is far from a reachability of the people. The role of the State in controlling the price of lands can optimize by establishing the land bank institutions at every level of the government to prevent the practice of violating the principles of latifundia and absentee landlords associated with the legal land use management.” (see Section 2 paragraph 4 page 5)

9. Before going into 3.1 (land bank model), the author needs to explain the basic concept and meaning of ‘land bank’, give some historical context, and make an argument why this might be useful in the case of Indonesia citing some successful examples globally.

√ We have provided the statement at the end of Section 3 before going into Section 3.1, as follows: “A land bank in Indonesia is proposed as the government social and financial institution that strikes a balance in fulfilling its social mandate of promoting a land tenure reform for the provision of affordable housing development in the urban areas and the management of agricultural lands in the rural areas while remaining financially viable. Created a land bank is to secure the land tenure and property rights in the urban areas and to finance the acquisition and distribution of agricultural lands for division and resale to small landholders and to promote the purchase of landholding by the tenant farmers of agricultural lands in the rural areas. Land banks are designed to acquire and maintain the price stability of the lands (Aryeetey and Udry, 2010). The land tenure issues in structured real estate development of the residential buildings need to be resolved by transferring back to the responsible ownership and productive use to meet the local land use goals and priorities (Briassoulis, 2019).” (see Section 3 paragraph 1 page 5)

10. In the first paragraph of 3.1, there are a lot of other sudden mentions of land acquisition instances, without properly explaining the context and actors behind such acquisitions.

√ We have revised the paragraph of Section 3.1 to have a logic explanation, as bellows: “The land bank model has been recognized for the provision of affordable residential and settlement lands for LIP in the urban areas by creating the environment ready to build and area ready to build. The state-owned enterprise of the Perum Perumnas has worked with the land bank models under supervision of the Ministry of Public Works and Housing (MPWH) to supply lands for the development of affordable housing for LIP in two provinces of East Java and Banten by providing the residential land of 400 ha at Driyorejo - Gresik of East Java province in 2014 and that of 144 ha at Cengkareng of Banten province in 2013. The land acquisition of 500 ha in the Jakarta city for the Pulogadung Industrial Estate in 1973 and that of 245 ha in the Surabaya city for the Surabaya Industrial Estate of Rungkut in 1974 have been shown to be effective in the provision of lands for affordable housing to LIP in the two big cities. This land-tenure based model was followed by the development of residential and industrial estates owned by the central and local governments and this can be seen as the embryo of land bank model in Indonesia. Land bank institutions can basically serve as the means of providing the lands with the support of several sources of funding (White et al. 2012). Acquisition of land can be solved using the land bank model to support the provision of lands in the development of industrial estate (Mukerji, 2017). Any speculative activities that can threaten affordable housing

supply must be avoided to possibly create a more efficient and effective land management system (Fatta, 2014).” (see Section 3.1 paragraph 1 page 6)

11. There needs to be a clear operational definition of ‘land bank’ and ‘land bank institution’. Does the author use them synonymously? Or is land bank a concept adopted by an institution? In such case, what institution is this? And how will this be different (legally) from already existing government line ministries and agencies?

√ We have inserted the statement in the text, as follows: “Created a land bank institution in Indonesia as the legal entity for sustainable land management must be funded by either local or central government budget and is a public authority operated to efficiently hold, manage, and develop the tax-foreclosed property.” (see Section 3.1 paragraph 1 page 6)

12. In subsection 3.2, the author makes an argument for good governance. How can good governance of ‘land bank institutions’ be ensured? What are the author's opinion on that?

√ We have improved the statement from “The implementation of good governance needs to be improved for avoiding any dispute and delay in the process of land acquisition, ...” to “The implementation of good governance in land tenure and administration needs to be improved the concept of sustainable land management by involving the land bank institution for avoiding any dispute and delay in the process of land acquisition, ...” (see Section 3.2 paragraph 1 pages 6-7)

13. In the same subsection, there is a reference to socio-cultural and religious beliefs and values attached to land, which often contradicts with private-sector-led market models. How can land bank solve this complex problem?

√ We have inserted the statement in the text, as follows: “The government policy may refer to socio-cultural and religious beliefs in certain cases of land management to safeguard forest and water resources through sustainable land, water and forest management by involving the land bank institution for the development of more just spatial plan to all people. The management of lands in many regions of Indonesia is unique and specific and has a socio-cultural even mystical and religious relationship. Therefore, the land management system by involving the land bank institution does recognize some customary laws which have the sources in diverse traditional customs of land management, such as Subak land management in the Bali Province, Swapraja land management in the Special Province of Yogyakarta, Dalihan Natolu land management in the Tapanuli of North Sumatra Province and Tanah Ulayat land management in the West Sumatra Province.” (see Section 3.2 paragraph 1 page 7)

14. Also, it is not clear if the author is proposing the establishment of a land bank (as a new institution) or advocating for strengthening of already existing similar mechanism? Page 6, 2nd paragraph, ‘....The political economy of the land market has made the land supply model, which is dependent on the government agenda.....’ explanation needed.

√ We revised the sentence to clarify that we are proposing the establishment of land bank as a new institution in Indonesia from “The political economy of the land market has made the land supply model, which is dependent on the government agenda (Li et al. 2015),” to “The political economy of land market can be made according to a land supply model managed by the land bank institution to acquire

enough lands, which is dependent on the government agenda (Li et al. 2015), ...” (see Section 3.2 paragraph 3 page 8)

15. Subsection 3.3 Subheading: Land bank entity. Is it same as land bank institution?

√ We have modified Subheading 3.3 from “Land bank intity” to “Establishment of land bank” (see Subheading 3.3)

16. The flow of subsection 3.3 is difficult to grasp.

√ We have tried to improve the flow of Subsection 3.3. (see Section 3.3 pages 8-9)

17. The author cites a literature from 1953. Does it imply that the concept of land bank has been there in Indonesia since 1953, or is 1953 a reference to the situation of another country? Why is this literature still relevant?

√ We have cited the up-to-date literature in the text “(Whitaker and Fitzpatrick IV, 2016)” and listed in References as follows: “Whitaker, S., Fitzpatrick IV, T.J., 2016. Lank bank 2.0: An empirical evaluation. J. Region. Sci. 56, 156-175.” (see Section 3.3 paragraph 2 page 9; see also References page 22)

18. Again, as much as the author seems to argue for the need of a ‘land bank’ institution, it is not clear as to how this state-funded institution will be different from other already existing government ministries and institutions. Also, the author says that “The land bank institutions must be separated from other government agencies and avoided from political and business interests”, but once the state allocates the budget, it will be under the control of state jurisdiction. How is the autonomy to be maintained then?

√ We have improved the sentences, as follows: (1) “The source of financing a land bank institution can be allocated part from state budget and part of budget from service charge contribution to have been considered land price fluctuations from the year to year.” and (2) “A land bank institution must be separated from other government agencies and avoided from political and business interests (Berdell, 2017) and has its responsibility to return the land and property to a productive use, which is not handled by other government institutions..” (see Section 3.3 paragraph 2 page 9)

Section 4

19. Linking paragraph need before jumping to ‘Land supply’.

√ We have linked the paragraph before jumping to “Land supply” by inserting the statement, as follows: “The role and responsibility of land bank institution at every level of administration must be assigned by the Act to allow the supply of land to an appropriate use of the available productive lands.” (see Section 3.3 paragraph 2 page 9)

20. 1st paragraph of 4.1clarity is very weak. Context and argument not clear.

√ We have tried to improve the 1st paragraph of 4.1 to create a new paragraph as follows: “The compulsory acquisition of land is increasingly important due to the rapid economic growth of Indonesia can cause changes in the land use over time and has always been a delicate issue to affect the decisions of land-use allocation (Shi et al. 2018). One of the land bank responsibilities is to acquire the lands according to the spatial planning policy to plan, provide, designate and use of the land surface for specific purposes. The arrangement of land, land consolidation and housing

development for LIP in the urban areas has been set to status of controlled rental housing according to the Law No. 2/2012 on land procurement for public utilities construction. Local tax object sale value may help the land bank institution in determining the base price of lands to be socialized to people who have the lands of being acquired by transaction processing model for buying and selling, or exemption of the property rights (Posner and Weyl, 2017). The role of land bank institution may resolve many toughest barriers of land acquisition to avoid any speculations with a thoughtfully execution.” (see Section 4.1 paragraph 1 pages 9-10)

21. Subsection 4.2: Land supply model: The introductory paragraph needs to be rephrased to enhance its clarity. Are the models that follow the recommendations of the author? Also, what does the author mean by ‘model’? Is it a proposed practice (way of addressing land use issues) or a scientific model based on evidences?

√ We have rephrased the introductory paragraph in Section 4.2 to enhance its clarity, as follows: “The goal of this section is to review the various existing models of land supply to support the land bank management framework of providing enough lands for public interest. A demonstrative evidence of the land supply models does exist in Indonesia even a part of these models has been regulated in the law. The management of land transaction by involving the land bank institution may maintain the suitability of different land supply models to undertake the just distribution of lands for use in the development of affordable housing for LIP in the urban areas or the construction of infrastructures served to public interest.” (see Section 4.2. paragraph 1 page 10)

22. 4.2.1: There is no clear evidence to how big (serious) the issue of abandoned land is in Indonesia. What does the data say?

√ We have inserted the statements as follows: “Agricultural land tenure by the private companies can affect the urbanization of people from the rural areas to big cities due to many people had been losing their lands as the most important natural resources for livelihood to sustain the basic needs in rural areas and in small towns (Satterthwaite et al. 2010). More than half of the population lives in the urban areas, which grows at the rate of 4.1% per year, is predicted to reach 68% of the Indonesian population in the cities by 2025 (Wajdi et al. 2017).” (see Section 4.2.1 paragraph 1 page 10)

23. 4.2.2: The author argues for landowners to give land to land banks as CSR, but surely, not all landowners will be able to afford this. It is not clear what criteria the author is proposing for this to take place? Or is this proposal only for large plantation areas? Even then, how large is ‘large’?

√ We have provided the criteria as mentioned in the text, as follows: “This paper suggests that the establishment of land bank institution is required for every plantation land of larger than 500 ha, every residential estate of larger than 150 ha and every industrial estate of larger than 100 ha with an obligation to set aside at least 5% of their land for the benefit of their workers, according to the Indonesian Law No. 40/2007 on limited liability companies. The largest private and public companies that operate on small plots of lands at different locations may contribute an obligation by setting aside 5% of their annual company’s profits to provide enough lands for the development of affordable housing for their workers by involving the role of land bank institution.” (see Section 4.2.2 paragraph 1 page 11)

24. 4.2.3: Regional assets. What are some examples of regional movable and non-movable assets?

√ We have provided some examples of regional movable and non-movable assets in the text by improving the statements from “The regional assets consisting of the moving and non-moving assets are owned either by city, regency or province. Whereas, fixed assets are the lands, buildings and other pre-existing facilities.” to “The regional assets consisting of the moving assets such as animals, furniture, vehicles and non-moving (fixed) assets such as lands, buildings and other pre-existing facilities are owned either by city, regency or province.” (see Section 4.2.3 paragraph 1 page 11)

25. Is the author proposing a ‘collective land ownership’ in Indonesia? Or is the argument against ‘collective land ownership’?

√ We have explained the status and benefit of collective land ownership and proposed as an initial capital investment of establishing the land bank institution, as follows: “Because the legal recognition of collective land ownership is still not getting much attention, the regional economic growth and development cannot yet match the expectancy of people in the last decades due to many collective lands cannot be used by the third parties to increase economic growth of the region (Barca et al. 2012). Legal status of collective land must be regulated by the Local Government Act to allow the people having to work more closely together to develop effective land uses to increase the regional income. Fair market value of donated benefit from collective land tenure must be determined on the basis of the local earned income tax by the local government for each year. The management of collective land by the local government can be designed as an initial capital investment of establishing the land bank institution (Busroh and Santiago, 2017).” (see Section 4.2.3 paragraph 1 page 11)

26. 4.2.4: National and regional funds: In the 1st paragraph of this subsection, the author writes: “The formulation of land politics in Indonesia is in an urgent need of the sufficient lands....” What does ‘formulation of land politics’ mean? How is it related to national and regional funds?

√ We have included the national and regional funds in the explanation by improving the statement form “The formulation of land related policies in Indonesia is in an urgent need of the sufficient lands by setting aside 5% of the local budgets for development of affordable housing for LIP and infrastructure for public interest.” to “The formulation of land related policies in Indonesia requires a clear understanding of the regional and national frameworks and is in an urgent need of the sufficient lands by setting aside 5% of the local budgets to the acquisition of targeted lands by the local government for development of affordable housing for LIP and infrastructure for public interest, while the central government may consider to support the construction of infrastructures and public facilities.” (see Section 4.2.4 paragraph 1 page 12)

27. 4.2.5: Enclave model: It is not clear from the only paragraph in this section what the author’s main argument is!

√ We have improved the whole section 4.2.5, which has been also separated into two paragraphs to clarify our argument. (see Section 4.2.5 paragraphs 1-2 page 12)

28. 4.2.6: Ulayat land: The author says that Ulayat land is owned by ‘customary law community’. This terminology needs to be defined. Is it a community where customary laws are practiced and followed? Does Ulayat land contradict with customary practices? What does the author mean by ‘land care model’?

√ We have defined “customary law community” as follows: “A customary law community is defined as group of people who are bound by the customary law due to the customs at the location of their residence are bound by their traditional inheritance rules.” (see Section 4.2.6 paragraphs 1 page 13)

√ Ulayat land does not contradict with customary practices when we read the statement: “The relation between customary law community and ulayat land is comprehended by sanctifying a particular land due to the traditional sacred lands in defense of cultural survival, human rights and the environment is the foundation of such land management (Urano, 2014).” (see Section 4.2.6 paragraphs 1 page 13)

√ We have explained the meaning of “land care model”, as follows: “In case of the ulayat land as land care model can be used as the most feasible alternative because it may be possible to process the transfer of management rights of the ulayat land belonged to one family from a customary law community to the land bank institution.” (see Section 4.2.6 paragraphs 1 page 13)

29. 4.2.7: Land of the Jakarta bay reclamation: Land reclamation is a very costly process. What is the incentive for the developers of reclaimed land to give land to the low income people?

√ We have provided the types of incentive for the developers of reclaimed land to give their lands to LIP, as follows: “An incentive program in the development of Jakarta bay proposed by the DKI Jakarta provincial government may take a variety of forms such as tax breaks, building supporting infrastructure, or workforce development to encourage the developers to voluntarily provide a part of their reclaimed lands for the development of affordable housing for LIP. Or the government of DKI Jakarta Province may buy part of the lands from the developers to provide the lands for development of affordable housing for LIP and public facilities, according to UUPA No. 5/1960.” (see Section 4.2.7 paragraphs 1 page 14)

30. 4:3: Affordable housing supply: There is a sudden jump to this subsection. Linking paragraph needed.

√ We have provided the link of land supply to affordable housing at the end of Section 4.2.7, as follows: “According to the above review of different land supply models, the role and responsibility of land bank institution may involve in the management of the various existing models of land supply to provide enough lands for the development of affordable housing for LIP.” (see Section 4.2.7 paragraphs 1 page 14)

31. 4.3.1: House price: By giving different house and flat prices, is the author showing the trend of rising prices in Indonesia? Or is the argument to lower these prices so that the poor too can afford these houses and flats? But as long as the demand for these facilities are there (with the existing process), how can the price be lowered?

√ We have provided some arguments in the text, as follows:
(1) “Real prices of affordable housing differently react to economic growth depending on many factors such as cost of construction, growth rate of underlying population, real income in the area, and size of the area.” (see Section 4.3.1 paragraph 1 page 15)

(2) “The role of local and central government in controlling the price of decent house for LIP has expanded over the years and influenced by the political policies. The most direct way of the government to relieve the housing cost burdens for LIP is by giving some subsidies including the subsidy of land.” (see Section 4.3.1 paragraph 1 page 15)

(3) “Basically, the MPWH authority may have enough budgets by making a request to the President to build decent flats for the whole country to control the price of affordable housing for LIP in the urban areas.” (see Section 4.3.1 paragraph 2 page 15)

(4) “In this case, the role of local government may be involved in releasing any targeted land from its owner for the development of decent flat with an affordable price for LIP.” (see Section 4.3.1 paragraph 3 page 16)

32. 4.3.2: Landless households: Who are these landless households? Why don't they have land ownership? Is it a common situation in all parts of Indonesia? Is it a traditional practice?

√ We have explained about the landless households, as follows:

(1) “The issues of landless households for the people who living in flat/apartment building can be investigated by granting full individual ownership of one dwelling unit within an apartment building with an undivided ownership interest in the land and other components of building shared in common with other owners of dwelling units in the building that known as communal right of the land (Antonio and Griffith-Charles, 2019; Wittayapak and Baird, 2018). The people who own or rent a dwelling unit in the apartment building don't have an ownership of the limited land due to one part of land has been used to build many dwelling units of the apartment building and other part of land used for public facilities..” (see Section 4.3.2 paragraph 1 page 16)

(2) “Even though the people living in an apartment building is not traditionally practiced in Indonesia, the tendency of people in the big cities to buy and live in a dwelling unit of the apartment building will increase from the year to year due to the implications of population growth and urbanization for competitive demands for the use of the land.” (see Section 4.3.2 paragraph 1 page 17)

(3) “The involvement of land bank institution is needed to control the price of land provided for the development of landless housing for LIP.” (see Section 4.3.2 paragraph 1 page 17)

Section 5

33. Conclusions: What are the main messages the author has derived from this study? Is the argument for land bank an evidence-based one or perception based? Does the author feel that land bank can work as a panacea to solve the land-use problems existing in Indonesia?

√ We have improved the statement in conclusions to include the main messages of work, as follows: “The practices of latifundia and absentee landowner in Indonesia can be minimized by involving the role of land bank institution. The establishment of land bank institution is considered as an effective way to supply enough lands and may help the government to solve the land-use problems to accommodate the needs of different interests. Many types of land tenure may be released from owners by the local government in accordance with the law by involving the role of land bank institution to provide a legal certainty of the land acquisition for development of affordable housing for LIP and construction of infrastructures for public interest.” (see Section 1 paragraph 1 page 18)

34. Some other technical observations:

a. Some citations are missing from the References: eg., **Fulazzaky, 2018** from page 2 and **Chirisa et al. 2015** from page 3.

√ The reference “**Fulazzaky, 2018**” should be written as “**Fulazzaky, M.A. 2017**” (see page 3) due to the cited article is “Fulazzaky, M.A. 2017. Participation of farmers in irrigation water management in Indonesia: a review. *Irrig. Drain.* 66, 182-191.” (see page 20) and the reference “**Chirisa et al. 2015**” should be written as “**Chirisa et al. 2014**” (see page 4) due to the cited article is “Chirisa, I.E.W., Kawadza, S.T., Bandaiko, E. 2014. Answering to the domesticability of exotic options and strategies in managing Africa’s urban landscapes for sustainability beyond 2015. *Springerplus* 3, 241.” (see page 19)

b. In page 3, 1st sentence last paragraph the citation for (Coiacetto, 2009) doesn’t seem to be placed correctly. Is this citation for the terminology ‘oligopoly’?

√ The sentence should be writtes as “The oligopoly in real estate development of land ownership (Coiacetto, 2009) that” because of this citation is the only concern for the terminology “The oligopoly in real estate development of land ownership” (see Section 2 paragraph 3 page 4)

c. The headings of Tables 2 and 3 are not clear

√ We have made the correction to clarify the headings of Tables 2 and 3. (see the headings of Tables 2 and 3)

d. Sources for all the tables and figures need to be provided

√ We have provided sources for all the tables and figures.

Finally, overall, the **language is very weak**. There are very many linguistic mistakes and errors, which makes the reading very difficult. It is strongly advised that the author first gives it to a professional language editor before resubmitting this article for publication.

√ We have tried to carefully improve English throughout the manuscript.

Highlights

▶ The issues of land and housing prices in Indonesia were reviewed. ▶ The establishment of land bank institutions was proposed to manage the lands. ▶ Various types of land supply can be transferred to the land bank management system. ▶ Landless housing prices in Jabodetabek were simulated to support decision making process.

A review of the establishment of land bank institution in Indonesia for effective land management of public interest

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Abstract

It is not easy to get a decent housing for low-income people (LIP) due to the limitation of land available for development in the urban areas allows speculators to retain the benefits of land in an unregulated commodity business. This study reviews the legal basis, land use issues, land bank, land supply models and affordable housing price to get better understanding on the provision of land for the construction of infrastructures to serve public interest and for the development of affordable housing for LIP in the urban areas. The establishment of land bank institution in Indonesia is considered important to accommodate the need of lands in the urban areas for a wide array of purposes. The analysis of landless housing prices in the Jabodetabek region for the development of five-story residential building can save more than 50% of income toward the necessity of affordable housing for LIP and this contributes to get better understanding on the decision making process by the provincial government of Special Capital Territory of Jakarta.

Keywords: affordable housing; Jakarta bay reclamation; land bank institution; land supply model; legal basis; low-income people.

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1. Introduction

Indonesia is the country with the largest population of Muslims in the world and hosts approximately 13% of the world's Muslims (Hefner, 2016). Muslims believe that God forms the man from the dust of the ground, then returns to the land and then resurrects again from the land, as mentioned in Surah 20 Verse 55 of the Holy Al-Qur'an. The word "land" has been mentioned more than 20 times in the Holy Al-Qur'an and is convincingly and legitimately the property of God. Humans can survive on the earth because of the land holds fortune from the sky. Therefore, no man or state can claim as the owner or the absolute ruler for the land over the world. The establishment of a state should basically have the territory under which all grace-gifts from God in the forms of land, sea and airspace must be controlled. The constitutional power of the government over the territory of Indonesia as stated in Article 33 paragraph 3 of the 1945 Constitution of the Republic of Indonesia that the land shall be controlled by the state and shall be made use for the prosperity of all people. Although the country maintains absolute power over the land, the country grants fiefs to landholders who served as citizens, paying the land tax and cultivating the agricultural lands (Khan, 2001). The 1945 Constitution mandates the Republic of Indonesia to administer the land and human settlement. A change in the relationship of humankind to land is one of the most important influences on the development of land administration systems to organize all the regions of Indonesia while a relationship has always been dynamic (Axinn and Ghimire, 2011).

The fourth paragraph of the Preamble of the 1945 Constitution states that the formation of government of the Republic of Indonesia shall protect all people of Indonesia and their entire native land in order to improve public welfare and to advance intellectual life of the people. Two of four goals of establishing the Republic of Indonesia emphasize the role of country to protect the nation and homeland for the prosperity of people. The fifth principle of Pancasila as the foundational philosophical theory of Indonesia state the social justice for all people, whereas the government has a state-administered mandate to organize land for the prosperity of society. The government of Indonesia faces great difficulties in getting access to provide the lands for the massive infrastructures development in all regions with the authority to tax to finance it (Nasution, 2016). [The government of Special Capital Territory \(DKI\) Jakarta may have many obstacles for building affordable housing for the residents of Jakarta city in order to provide a better service to meet the principles of Pancasila due to the corruption has been around for five decades in the delivery of infrastructure services \(Widoyoko, 2007\).](#) Given the price of undeveloped lands in some prime locations of the Jakarta city has become more expensive than second-hand apartments to incriminate the low-income people (LIP) to buy one unit of house. Vertical housing development has been made for some regions of Jakarta based on the distribution pattern of the land and apartment prices to meet growing demand to supply housing stock at affordable prices for LIP. However, the LIP must pay the price of land according to a proportional comparison value of the property rights to flat component (Kendall and Tulip, 2018). The fact that it is an irony in administering of land in Indonesia due to the authority of government can be negotiated by the private sectors.

Increasing the area of land and natural resources to have been under the control of the private sectors has fundamental implications in providing the affordable price of

house for LIP in the big cities (Fulazzaky and Gany, 2009; Hazell and Wood 2008) and in ensuring the provision of agricultural lands for the rural poor (Barbier and Hochard, 2016; Fulazzaky, 2017). It is inseparable from the implementation of the weak government practices in administering the lands in all regions of Indonesia. The cases of land dispute in the court even to the Supreme Court have been reported approximately 50% of all cases addressing the Supreme Court to have been drained energy of the nation due to they create economic disparity and jealousy (Ilorah, 2009; Yu and Wang, 2017). The cases of Potanigrah, Meruya, Kedoya, Tanjung Priok, Outer Batang and others with a total civil court verdict of 7861 decisions in the last 10 years have been seen as controversial in administering the lands of certain areas in Indonesia (Power, 2018). On the economic growth pathway, the concern of the real estate business to abandoned lands is the main reason for the shrinking lands, and the real estate development on an abandoned land leads to an increase in the land price (Li and Li, 2017). A real estate company that having a vast land tenure may control the land latifundia (Paulino, 2014). Consequently, it has been violated Article 17 of the Basic Agrarian Law No. 5/1960 (UUPA No. 5/1960) on latifundia to violating the latifundia ban by practicing over land control of controlling the lands outside the territory of domicile. For a long-term solution, a viable incentive of LIP tax credit offered by the government to private sector to encouragingly invest in the provision of affordable housing must extend beyond regulatory compliance, while the incremental costs of providing social and public facilities might be partly met from public funds in the form of service payments for allowance of various benefits received from social and public facilities to residents of the residential complex. The objectives of this paper are: (1) to review the existing evidence-based practices of legal basis, land use issues, land tenure arrangement models, and land supply models to get better understanding on the proposition of establishing the land bank institution in Indonesia and (2) to offer a new concept of the land tenure and distribution to ensure enough lands for the development of affordable housing for LIP and the construction of public infrastructures.

2. Land use issues

The land tenure of the people is regulated by the government based on the rights of the state to administer the land as stated in Article 2 paragraphs 1 and 2 of the UUPA No. 5/1960. The government has the rights to regulate the allotment, use, provision, and maintenance of land (Trembecka and Kwartnik-Pruc, 2018) and also has the rights to regulate the legal relation between legal subject and land (Cotterrell, 2000). The authority of granting the land rights in Indonesia is fully controlled by the government where the National Land Agency is the leading sector of land administration (Akinola, 2018). The involvement of other government agencies to regulate the lands includes the Local Government, Ministry of Environment and Forestry, Ministry of Agriculture and Ministry of Maritime Affairs and Fisheries. The idea of the Indonesian Law to involve many government agencies in the management of land could be due to the land as a gift from God should be easily used as much as possible to the welfare of people (Pillay, 2017). Contrary to the Law No. 1/2011 on Housing and Resettlement Area that regulates the decent housing prices, the price of land becomes increasingly unreachable by the people (Elmanisa et al. 2017). Many government officials face difficulties to get an available land for the development of public infrastructures, including the provision of land for the construction of affordable housing to LIP in the urban areas. Figure 1 shows the paradigm shifts in

the land tenure for the most public lands in Indonesia to deal with an effective performance appraisal process regarding the reasons of increasing the price of lands becoming away from reachability of the people.

(Fig. 1 should be here)

The complexities of valuing the lands are related to the absence of an appropriate and strategic land management policy framework (Chirisa et al. 2014) due to the rights of state as delegated by the UUPA No. 5/1960 to the government are not functioning properly. An increase in the price of residential lands is because the effects of land management practices on the fluctuations of land appraising as shown in Fig. 1 are due to: (1) the paradigm views the land, especially for the rural area, as something sacral, religious, magic, dignity and honor since the land owned by clan elite although the land ownership of urban area may gain the social status of successfulness, wealth and prosperity, (2) the land tenure is a really important part of the invest in commodity-related businesses, (3) the excessive tenure practices can violate the prohibition of latifundia, leading to the control of land is dominated by the handful of people or large corporations, (4) the practice of absentee land tenure results in increasing the amount of abandoned land, especially for the areas surrounding a big city, (5) the deviation of land use planning, especially for the agricultural land, can ignore the principle of land reform due to the weakness of local land tenure management system, conflict of interest and complex issues of the land tenure and (6) the ambiguous authority between local and central government can limit the engagement of the government officials with professional practices.

The oligopoly in real estate development of land ownership (Coiacetto, 2009) that controls the lands for plantation, farm, timberland and large real estate consisting 25 groups of the private companies with a majority-owned venture by the tycoons has been given enough authorities by the local and central governments to deal with the management of approximately 5.1 million hectares (Mha), whereas Indonesia covers around 10 Mha of the total industrial oil plantations (Gaveau et al. 2016). Noted that tycoons are the persons of ethnic chinese in Indonesia who are successful in the property business and have become very rich and powerful through their ownership of the lands. A land area of 128.297 km² is estimated to be nearly half of the Java island land area, where approximately 2 Mha of that land has not been planted and unfortunately part of it is becoming a neglected land. Figure 2 shows part of the private palm oil plantations in Indonesia controlled by a small group of the large plantation owners that control the production and market for palm oil to be represented by no more than 3% of whole Indonesian population.

(Fig. 2 should be here)

The top 10 landlord real estates in Indonesia include: PT Agung Podomoro Land Tbk, PT Agung Sedayu Group, PT Alam Sutera Realty Tbk, Ciputra Group, PT Intiland Development Tbk, PT Lippo Karawaci Tbk, PT Pakuwon Jati Tbk, PT Paramount Serpong, PT Summarecon Agung Tbk and Sinarmas Land Group. The involvement of these 10 real estate companies to boost housing development has completed hundreds of the large-scale residential projects in almost all major cities of Indonesia (Rakodi and Firman, 2009). In recent case of the Jakarta bay reclamation projects, the real estate construction and development projects require the expertise of managers who

have experienced with many large-scale property projects. Therefore, all these landlord real estates have been qualified to be worthy of doing together the projects of reclaiming 17 artificial islands in the western outskirts as a new district of the Jakarta city (see Fig. 3). A preliminary analysis of the project indicates the needs to construct a new airport and to expand the Jakarta Port of Tanjung Priok (Jayanthi and Damayanti, 2015). It seems that a reliable program of providing affordable and livable housing for all levels of society including LIP is still not considered better approach than spending a building out a more complete for the rich people. [Role of the DKI Jakarta government in the provision of affordable housing to LIP is very important in the decision-making of developing the new resettlement areas with a concept of residential balance in accordance with the Decree of Minister of Housing Affairs No. 7/2013 due to the urban poor provides cheap labour and may handle typical works that are not usual to the rich.](#) It is suggested that alignment among the various political stakeholders has to do with adjusting the project approach and schedule. Although it has been claimed that one of the Jakarta bay reclamation purposes can solve the problem of water quality (Fulazzaky, 2009; Fulazzaky, 2010; Kooy and Walter, 2019), the direct effects of border wall construction and maintenance will be destroying not only corals but also entire way of habitat life in the area of the Jakarta bay reclamation projects. This may force the local fishermen and fish markets in the project-affected communities out of their businesses. Successful project delivery requires the implementation of correct decision making systems (Jawad et al. 2018) that may control the quality and potential of land space development in the provision of affordable housing for all levels of society, including for LIP. [Indonesia faces challenges with the land tenure issues in providing the affordable housing for LIP in the big cities and the opportunities to access and utilize the agricultural lands for the rural poor due to the increasing of land price is far from a reachability of the people. The role of the State in controlling the price of lands can optimize by establishing the land bank institutions at every level of the government to prevent the practice of violating the principles of latifundia and absentee landlords associated with the legal land use management.](#)

(Fig. 3 should be here)

3. Land bank

[A land bank in Indonesia is proposed as the government social and financial institution that strikes a balance in fulfilling its social mandate of promoting a land tenure reform for the provision of affordable housing development in the urban areas and the management of agricultural lands in the rural areas while remaining financially viable. Created a land bank is to secure the land tenure and property rights in the urban areas and to finance the acquisition and distribution of agricultural lands for division and resale to small landholders and to promote the purchase of landholding by the tenant farmers of agricultural lands in the rural areas. Land banks are designed to acquire and maintain the price stability of the lands \(Aryeetey and Udry, 2010\). The land tenure issues in structured real estate development of the residential buildings need to be resolved by transferring back to the responsible ownership and productive use to meet the local land use goals and priorities \(Briassoulis, 2019\).](#)

3.1. Land bank model

The land bank model has been recognized for the provision of affordable residential and settlement lands for LIP in the urban areas by creating the environment ready to build and area ready to build. The state-owned enterprise of the Perum Perumnas has worked with a land bank model under supervision of the Ministry of Public Works and Housing (MPWH) to supply lands for the development of affordable housing for LIP in two provinces of East Java and Banten by providing the residential land of 400 ha at Driyorejo - Gresik of East Java Province in 2014 and that of 144 ha at Cengkareng of Banten Province in 2013. The land acquisition of 500 ha in the Jakarta city for the Pulogadung Industrial Estate in 1973 and that of 245 ha in the Surabaya city for the Surabaya Industrial Estate of Rungkut in 1974 have been shown to be effective in the provision of lands for affordable housing to LIP in the two big cities. This land-tenure based model was followed by the development of residential and industrial estates owned by the central and local governments and this can be seen as the embryo of land bank model in Indonesia. Land bank institutions can basically serve as the means of providing the lands with the support of several sources of funding (White et al. 2012). Acquisition of land can be solved using the land bank model to support the provision of lands in the development of industrial estate (Mukerji, 2017). Any speculative activities that can threaten affordable housing supply must be avoided to possibly create a more efficient and effective land management system (Fatta, 2014). Created a land bank institution in Indonesia as the legal entity for sustainable land management must be funded by either local or central government budget and is a public authority operated to efficiently hold, manage and develop the tax-foreclosed property.

3.2. Roles of land bank

The establishment of land bank institutions is required for strengthening the national development in the implementation of constitutional rights and is very urgent for the execution of a more just and prosperous spatial and regional planning plan (Busroh and Santiago, 2017; Mycoo, 2017). Land bank institution has its main roles to inventory, plan, implement, control and notify all stakeholders who hold land tenure for any area (Marey-Pérez et al. 2014). According to the UUPA No. 5/1960, the obligation of land bank institution is assigned to bear the state responsibility for realizing the welfare of all its citizens and shall at all times ensure fair and equitable, based on the spirit of Article 33 paragraph (3) of the 1945 Constitution. The implication of establishing the land bank institutions may accommodate all land use needs for the developments of road, highway, dam, market, hospital, school, office, sport facility, port, airport, etc., to support the realization of many public infrastructures. However, the land bank institution might have to face challenges in carrying out its duties as the primary land use control authority of the country, notably the need for better cooperation with the partner institutions, and must consider the sensitive issues as being particularly prone to conflict. Topic issues of land management should identify the main ideas of establishing the land bank institutions, such that: (1) the procedure of land procurement for development in the public interest should be clear. Regarding the economic, social and cultural rights of local people must be considered to get a view on the pros and cons of the process of land acquisition (Abbinck, 2011). The implementation of good governance in land tenure and administration needs to be improved the concept of sustainable land management

by involving the land bank institution for avoiding any dispute and delay in the process of land acquisition, (2) the land management paradigm in mindset of some Indonesian people to be considered certain parts of the lands as sacred, sensitive and magical religion drives the land management systems dealing with land rights, restrictions and responsibilities to support the development of public infrastructures (Stringer et al. 2017). However, the land being treated as the object of the investments and speculative activities to have been tolerated by some individuals would take a lot of energy and conscientiousness to reprogram the subconscious mind, which would result in the paradigm changes. The fact that the procurement of land for any purpose cannot be separated from a conflict and is the subject that cannot be solved with a competent authority in the scientific discipline, and (3) it is necessary to establish the land bank institution with part of its roles to manage the land procurement for public interest based on the principles of legal certainty. The government policy may refer to socio-cultural and religious beliefs in certain cases of land management to safeguard forest and water resources through sustainable land, water and forest management by involving the land bank institution for the development of more just spatial plan to all people. The management of lands in many regions of Indonesia is unique and specific and has a socio-cultural even mystical and religious relationship. Therefore, the land management system by involving the land bank institution does recognize some customary laws which have the sources in diverse traditional customs of land management, such as Subak land management in the Bali Province, Swapraja land management in the Special Province of Yogyakarta, Dalihan Natolu land management in the Tapanuli of North Sumatra Province and Tanah Ulayat land management in the West Sumatra Province.

The establishment of a land bank institution to execute the legal process of acquiring the lands of individual citizens or organizations for any purpose can meet the minimum standards for a land acquisition with its roles: (1) as land keeper, the land bank institution can collect the data of land such as land tenure, land ownership and land use planning. All data must be accurate, factual and complete, (2) as land warrantor, the land bank institution must pay attention to the planning periods of national and local spatial plans because it has the responsibility to control the land procurement procedures and processes either by trading, exchange or disposal of right, (3) as land price controller, the land bank institution must ensure the market penetration strategy to prevent the control of land by any particular groups, (4) as property valuer, the land bank institution must prepare the value range pricing strategy of property to compensate speculators for use of the limited availability of land for the public interest in urban areas due to Indonesia has for some decades faced a progressively limited availability of land for the public interest, (5) as land distributor, the land bank institution can engage in the distribution of land for the construction of affordable infrastructure and housing to ensure that the land insurance can be obtained by the owners to have a suitability of investment in the marketable securities and (6) as land manager, the land bank institution may manage the storage, determination, planning, use and supply of the land in order to organize the provision of land for all land use needs to avoid any speculations.

Land bank must focus to not only on the provision of lands for infrastructure and public utilities but can also be directed to the importance of land provision for development of affordable housing for LIP. In the broadest view, there are three phases of land acquisition: preparation, implementation and control (Moyo, 2011;

Tagliarino et al. 2018). Land bank institution must be familiar with a license to acquire the property with detailed spatial plan, occupied area and infrastructure development and has a key role to hold control data generated by three main activities of provision, maturation and distribution of lands for any purposes (Fulazzaky and Akil, 2009). There are four ways to acquire the land resources: consolidation, buying and selling, exchange and disposal of property rights. The political economy of land market [can be made according to a land supply model managed by the land bank institution to acquire enough lands](#), which is dependent on the government agenda (Li et al. 2015), and must be legally justified in the provision of land for development of affordable housing for LIP to avoid any practices of latifundia and absentee landowners. The establishment of land bank institutions strikes a balance in fulfilling its social mandate of promoting affordable housing development and is required at the national, provincial and district levels in Indonesia.

3.3. Establishment of land bank

Land bank institution as the governmental entity or nonprofit corporation can be established at the national, provincial and district levels and is assigned its responsibility and authority to focus on the conversion of vacant, abandoned and tax delinquent lands into productive use (Alexander, 2005). Type of land bank institution [can be created](#) in the form of either government agency or state-owned enterprise or public service agency with its legal basis, legal body and scope of work as described in Table 1. Legal basis for the establishment of land bank institution in Indonesia must be based on the Law of the Republic of Indonesia (UU) or the Government Regulation [of the Republic of Indonesia \(PP\)](#) as the Law Substitution.

Table 1 Type of the land bank institution in Indonesia

Type	Legal basis	Legal body	Scope of work
Government agency	PP No. 27/2014 on state/regional-owned property management	Ministry of Agrarian Affairs and Spatial Planning/ National Land Agency	(1) to regulate the planning, designation, use, acquisition, and consolidation of lands and (2) to regulate the selling of lands encountered barriers in accordance with the provision of state assets.
State-owned enterprise	UU No. 40/2007 on limited liability company. UU No. 19/2003 on state-owned enterprises, juncto PP No. 45/2005 on state enterprise establishment, management, supervisions and dissolution.	Central land bank company	(1) to arrange the planning, designation, use, acquisition and consolidation of lands, (2) to remove and transfer the lands and (3) to place the property in form of income into company (inbrenng) or to into profit-driven rights management and profitability concession contract like cultivation rights.
Public service agency	PP No. 23/2005 on financial management of public service agency as amended by PP No. 74/2012.	Land public service agency	(1) to arrange the planning, designation, use, acquisition of lands, (2) to consolidate, to remove and to transfer the lands and (3) to replace the lands and to make the land use

*Sources: (1) PP No. 27/2014 on state/regional-owned property management, (2) UU No. 40/2007 on limited liability company, (3) UU No. 19/2003 on state-owned enterprises, (4) PP No. 45/2005 on state enterprise establishment, management, supervisions and dissolution, and (5) PP No. 74/2012 on financial management of public service agency.

Establishment of land bank institution as the legal entity engaged in land acquisition must be equipped with a professional team and a strong capital base to encouragingly reduce the negative externalities of lands and properties in Indonesia (Whitaker and Fitzpatrick IV, 2016). The source of financing a land bank institution can be allocated part from state budget and part of budget from service charge contribution to have been considered the land price fluctuations from the year to year. The effectiveness of land bank working system is seen in the speed and accuracy of acquiring lands for development of either affordable housing or infrastructure for public interest due to the fluctuation of land price would be dependent on the value of houses and buildings at nearby locations (Zhuang and Zhao, 2014). Legal entity of the land bank can be established based on the Act for urban and rural areas (Alexander, 2005). A land bank institution must be separated from other government agencies and avoided from political and business interests (Berdell, 2017) and has its responsibility to return the land and property to a productive use, which is not handled by other government institutions. It is suggested that land bank institution can be named with the reliable name such as the National Public Service Agency at national level, Provincial Public Service Agency at provincial level and District/Municipal Public Service Agency at district/municipal level. The role and responsibility of land bank institution at every level of administration must be assigned by the Act to allow the supply of land to an appropriate use of the available productive lands.

4. Land supply

This section provides the acquisition of lands and the description of different land supply models in Indonesia. The land supply models are related to the utilization of abandoned land, corporate social responsibility, regional assets, national and regional funds, land enclave, ulayat land and land of the Jakarta bay reclamation.

4.1. Land acquisition

The compulsory acquisition of land is increasingly important due to the rapid economic growth of Indonesia can cause changes in the land use over time and has always been a delicate issue to affect the decisions of land-use allocation (Shi et al. 2018). One of the land bank responsibilities is to acquire the lands according to the spatial planning policy to plan, provide, designate and use of the land surface for specific purposes. The arrangement of land, land consolidation and housing development for LIP in the urban areas has been set to status of controlled rental housing according to the Law No. 2/2012 on land procurement for public utilities construction. Local tax object sale value may help the land bank institution in determining the base price of lands to be socialized to people who have the lands of being acquired by transaction processing model for buying and selling, or exemption of the property rights (Posner and Weyl, 2017). The role of land bank institution may

resolve many toughest barriers of land acquisition to avoid any speculations with a thoughtfully execution.

4.2. Land supply models

The goal of this section is to review the various existing models of land supply to support the land bank management framework of providing enough lands for public interest. A demonstrative evidence of the land supply models does exist in Indonesia even a part of these models has been regulated in the law. The management of land transaction by involving the land bank institution may maintain the suitability of different land supply models to undertake the just distribution of lands for use in the development of affordable housing for LIP in the urban areas or the construction of infrastructures served to public interest.

4.2.1. Utilization of abandoned land

According to the PP No. 36/1998 on control and utilization of abandoned land, the criteria of neglected land are the lands to have not been utilized and/or maintained properly and the lands to have not been used in accordance with the circumstance, nature or purpose of granting the rights. The tendency of abandonment to exceed the rate of land use is the land abandoned to not only the plantation areas (Jaquet et al. 2019) but also the areas of land around the cities, such as the areas of land around the region of Jakarta, Bogor, Depok, Tangerang and Bekasi, known locally as the Jabodetabek, the region of Gresik, Bangkalan, Mojokerto, Surabaya, Sidoarjo and Lamongan, known as the Gerbang Kertosusilo, and the region of Medan, Tanjung Morawa, Binjai and Deli Serdang, known as the Mabide. Agricultural land tenure by the private companies can affect the urbanization of people from the rural areas to big cities due to many people had been losing their lands as the most important natural resources for livelihood to sustain the basic needs in rural areas and in small towns (Satterthwaite et al. 2010). More than half of the population lives in the urban areas, which grows at the rate of 4.1% per year, is predicted to reach 68% of the Indonesian population in the cities by 2025 (Wajdi et al. 2017). The problem of latifundia by violating the UUPA No. 5/1960 and the Regulation of Minister of Agrarian and Spatial Planning/Head of the National Land Agency (Permen ATR/BPN) No. 18/2016 on service of transfer of certain right-to-build titles in certain areas has widespread consequences to have been the basis of extreme inequities in the wealth and biodiversity loss in Indonesia (Chaves, 2013). The Government Regulation in Lieu of Law (PERPU) No. 56/1960 on stipulation of area of agriculture land regulates the limitation of private land ownership based on the population density, as follows: 20 ha of not as densely populated area, 12 ha of least densely populated area, 9 ha of densely populated area and 6 ha of most densely populated area. Land tenure by small group of tycoons in the practices of latifundia and absentee landowners have been violating the principles of land ownership regulated by the PERPU No. 56/1960 and are the origin of uncontrollable land prices. The problem of land speculation can lead to an incidence of rising land prices (Wissink et al. 2017) and may result in scarcity of land procurement for the development of infrastructures for public interest and for the provision of affordable housing for LIP in the urban areas. The management of soil functions using a public service agency model by the land bank institution can transfer the abandoned lands to a voluntary land-granting model by the tycoons of land rulers as an act of honor according to the fifth principle of Pancasila. The

government can issue a decree on the suspension of exercising any control over the access of speculators to the land rights for the interest of people pursuant to the applicable provisions according to the principle of ready to share land with the people.

4.2.2. Corporate social responsibility

Land tenure by the state-owned companies, national or multinational corporations around the factories and plantations can be setting aside a part of their lands to land bank management program for development of affordable housing for workers through a profit sharing scheme mechanism to have a corporate social responsibility (CSR) system. The obligation of the land ownership to provide a part of his land for his workers must be regulated by the government by converting it to the CSR costs or to include a tax deduction (Howard-Hassmann, 2013). Many large corporations in Indonesia have a responsibility to provide enough dormitories for their workers. A worker will be asked to leave his dormitory by the following cases: when a worker retires or when a worker quits working for the company. In certain cases, a worker who has retired from a company was forcibly removed from his dormitory (Lee and Smith, 2009; Maestas, 2010) due to serious concern of possible risk to the provision of dormitory for a new worker if a worker who has retired still staying at his dormitory to possibly face with a bailiff. This paper suggests that the establishment of land bank institution is required for every plantation land of larger than 500 ha, every residential estate of larger than 150 ha and every industrial estate of larger than 100 ha with an obligation to set aside at least 5% of their land for the benefit of their workers, according to the Indonesian Law No. 40/2007 on limited liability companies. The largest private and public companies that operate on small plots of lands at different locations may contribute an obligation by setting aside 5% of their annual company's profits to provide enough lands for the development of affordable housing for their workers by involving the role of land bank institution.

4.2.3. Regional assets

The regional assets consisting of the moving assets such as animals, furniture, vehicles and non-moving (fixed) assets such as lands, buildings and other pre-existing facilities are owned either by city, regency or province. The purpose of utilizing the regional assets, which are managed by the Regional Asset Management Board, is to make a benefit for the regional incomes. Many land assets in Indonesia are neglected due to the leadership of the local authorities doesn't to seriously take care of land for the purpose of infrastructure development for public interest and affordable housing for LIP. Because the legal recognition of collective land ownership is still not getting much attention, the regional economic growth and development cannot yet match the expectancy of people in the last decades due to many collective lands cannot be used by the third parties to increase economic growth of the region (Barca et al. 2012). Legal status of collective land must be regulated by the Local Government Act to allow the people having to work more closely together to develop effective land uses to increase the regional income. Fair market value of donated benefit from collective land tenure must be determined on the basis of the local earned income tax by the local government for each year. The management of collective land by the local government can be designed as an initial capital investment of establishing the land bank institution (Busroh and Santiago, 2017). The village cash lands of crooked land,

kitsitir and gogolan in the Java island that have been applied to change the status of a village into a town must be submitted to the regional assets. The densely populated provinces of Banten, West Java, Central Java and East Java can utilize the village cash lands to invest in their land banks. Certain regions of district, municipality or province like Cirebon, Yogyakarta Special Region, Medan, Surakarta and other regions that have an ex-kingdom land can utilize their untapped lands to be handed over to a land bank institution for the development of affordable housing for LIP.

4.2.4. National and regional funds

In Indonesia, each local government is at the forefront of national movement to encourage land purchasing to support the development of infrastructure for public interest and affordable housing for LIP. One of the ways applied to encourage every local government to purchase the lands is channeled the special allocation funds by central government to the district/municipal and provincial governments (Gray and Barford, 2018). Federal government of the United States allocates the state budgets to the land bank institutions of being submitted by each state for every year while the state-controlled lands are mostly used for the construction of affordable housing for people (Wallis, 2000). In Singapore, the Housing Development Board is entrusted to handle the tasks of providing affordable housing for the people (Beng-Huat, 1996). The formulation of land related policies in Indonesia [requires a clear understanding of the regional and national frameworks](#) and is in an urgent need of the sufficient lands by setting aside 5% of the local budgets [to the acquisition of targeted lands by the local government](#) for development of affordable housing for LIP and infrastructure for public interest, [while the central government may consider to support the construction of infrastructures and public facilities.](#)

4.2.5. Land enclave

[By definition](#) an enclave of the territory or part of the territory is entirely surrounded by the territory of other state (Jones, 2009). Some of the enclaved states include Lesotho, Vatican City and San Marino due to Lesotho is surrounded by South Africa while Vatican City and San Marino are surrounded by Italy (van Schendel, 2002). [Similar to an enclave definition of the state territory can be used to describe an enclave of the agricultural land to support the land supply models.](#) A land enclave of the cultivation rights (HGU) of the lands [for the PT Perkebunan Nusantara \(PTPN\) at certain locations in Indonesia](#) has a large piece of the [agricultural land surrounded by many small pieces of lands owned by many people.](#) The oil palm plantations around the cities of Deli Serdang, Serdang Bedagai, Simalungun and Medan of the North Sumatra Province are surrounded by many villages that have many houses, buildings, agricultural lands and other land service facilities owned by different land tenures.

[Many tea plantations managed by the PTPN 8](#) in the Jabodetabek region have a large enough piece of [enclaved](#) lands as the sources of lands for shared equity homeownership program of the land bank. [The only way powerful enough to stop the tenure of agricultural lands by the PTPN 8 is the enactment of the Local Government Act on land use and land tenure system.](#) The local government [can then stop the validity of HGU PTPN 8 by implementing the related law](#) to avoid any land litigation issues from a company and community around the plantation lands. The release of land for public purposes has been practicing at [certain areas](#) of Cisarua - Bogor,

Subang and Sukabumi in the West Java Province as well as at Helvetia, Percut Sei Tuan, Saentis and Kualanamu of Deli Serdang and the area surrounding the Medan city in the North Sumatra Province. A dienclave model project of agricultural lands released from the PTPN must be initiated by the land bank institution due to the public housing projects to provide the affordable housing for LIP are initiated by the local government rather than the results of ruislag done by the largest private companies (Zhou and Ronald, 2017). Figure 4 shows the flowchart of dienclave model of HGU PTPN in the favour of redistributing many small pieces of lands to LIP by involving the land bank institution. In many cases of the Jabodetabek region, the illegal buildings such as hotel, villa and educational center can be built by the surrounding community during the ruislag practice of plantation lands and therefore need to be regulated by the land bank institution to develop the ways of incorporating community safety within spatial planning and management policies. Land release program for the development of affordable housing is part of the land bank program that deals with transfer of plantation land to LIP and should be executed under the authority of the district/municipal government after the HGU period expires. During the implementation of dienclave model project, it should not be directly submitted the released lands to many individuals but must be identified and managed by the land bank institution.

(Fig. 4 should be here)

4.2.6. Ulayat land

Ulayat land is a piece of the land that having an ulayat right of the customary law community over a particular land (Bedner and Van Huis, 2008). A customary law community is defined as group of people who are bound by the customary law due to the customs at the location of their residence are bound by their traditional inheritance rules. Ulayat right is a right given by the customary law community over a piece of land to the authority of particular customary law (Ifrani et al. 2019). With this authority allowing a community manages the rights to explore and exploit natural resources as the benefits generated from a land for survival. The rights of indigenous people in Indonesia are recognized from the UUPA No. 5/1960 which applies to earth, water and airspace. The relation between customary law community and ulayat land is comprehended by sanctifying a particular land due to the traditional sacred lands in defense of cultural survival, human rights and the environment is the foundation of such land management (Urano, 2014). An ulayat-owned land does not mean the land owned by local government or individual but rather a customary law community. It seems that the important role of the authorized indigenous non-formal leaders within a customary legal community may work closely with the land bank institution for the release of ulayat land for the development of affordable housing for LIP. The construction of a house on the ulayat land has been already initiated before the independence of the Republic of Indonesia in the West Sumatra Province (De Royer et al. 2015). The Minangkabau people of West Sumatra Province have been already known with a family-owned property. In case of the ulayat land as land care model can be used as the most feasible alternative because it may be possible to process the transfer of management rights of the ulayat land belonged to one family from a customary law community to the land bank institution.

4.2.7. Land of the Jakarta bay reclamation

The reclamation project of Jakarta bay determining a long-term vision to handle the ecological conditions in the northern coastal areas of the Jakarta city has been started since 2016 without a first detailed examination of the short-term ramifications (Ajiwibowo and Pratama 2018). The ads of Jakarta bay reclamation plan have been spreading to China, Europe, Hong Kong, Japan, Malaysia, Singapore and the United States of America (Minkman et al. 2019). The reclamation of Jakarta bay to cover the development of 17 artificial islands became subject to the topic of heated debate during the gubernatorial election campaign in 2017. According to the Regional Regulation of DKI Jakarta No. 1/2012 on spatial plan 2030, the project of Jakarta bay reclamation, which adds 5,100 ha to be approximately half the size of Bogor city to increase the surface area of Jakarta city, would benefit all Jakartans. Figure 5 shows the land tenure and land use planning of the Jakarta bay reclamation to be submitted to eight largest real estate private equity firms and the government of DKI Jakarta Province. Referring to Article 33 paragraph (3) of the 1945 Constitution to promote a general welfare of people, it is suggested that the responsibility of the DKI Jakarta provincial government is to provide at least 50% affordable housing for LIP. There is a land bank institution more likely than commercial real estate firm to express favorable views of affordable housing development for LIP. However, the reclamation projects of Jakarta bay executed by the country's eight giant developers as shown in Fig. 6 are to only focus on the benefits for the investment and business interests of the tycoons. By establishing the Provincial Public Service Agency, the government of DKI Jakarta Province can help the LIP in the Jakarta city to assess and manage their own risk to have a decent house by providing affordable housing in certain areas of every artificial island. [An incentive program in the development of Jakarta bay proposed by the DKI Jakarta provincial government may take a variety of forms such as tax breaks, building supporting infrastructure, or workforce development to encourage the developers to voluntarily provide a part of their reclaimed lands for the development of affordable housing for LIP. Or the government of DKI Jakarta Province may buy part of the lands from the developers to provide the lands for development of affordable housing for LIP and public facilities, according to UUPA No. 5/1960. According to the above review of different land supply models, the role and responsibility of land bank institution may involve in the management of the various existing models of land supply to provide enough lands for the development of affordable housing for LIP.](#)

(Fig. 5 should be here)

(Fig. 6 should be here)

4.3. Affordable housing

The goal of this section is to review the prices of affordable housing that have been set by the government and the simulation of landless housing prices in the region of Jabodetabek to get better understanding on the economic benefit of sustainable land management by involving the land bank institution.

4.3.1. House price

The government of Indonesia has determined two types of affordable housing: tread house residence and flat residence (Widoyoko, 2007). The Ministry of Public Works and Housing (MPWH) has a constitutional authority to regulate the price of tread houses and flats through a Decree of the MPWH No. 552/KPTS/M/2016 at an affordable price in all regions of Indonesia, as shown in Tables 2 and 3. Real prices of affordable housing differently react to economic growth depending on many factors such as cost of construction, growth rate of underlying population, real income in the area, and size of the area. A difference in the house prices among the regions of Indonesia is dependent upon the demand and supply conditions and could be partially caused by differences in wages (Glindro al. 2011). Table 2 shows the average prosperous house price rising by more than 5% year-over-year from 2016 to 2018. The most expensive prosperous house in the country was sold in the Papua and West Papua region for IDR 205.000.000 in 2018. The role of local and central government in controlling the price of decent house for LIP has expanded over the years and influenced by the political policies. The most direct way of the government to relieve the housing cost burdens for LIP is by giving some subsidies including the subsidy of land.

Table 2 The prices of affordable housing set by the Decree of Minister of Public Works and Housing for the years: 2016, 2017 and 2018*

Region	Selling price by year (IDR)		
	2016	2017	2018
Java, except Jabodetabek	116.500.000	123.000.000	130.000.000
Sumatra	116.500.000	123.000.000	130.000.000
Kalimantan	128.000.000	135.000.000	142.000.000
Celebes	122.500.000	129.000.000	136.000.000
Moluccas	133.500.000	141.000.000	148.500.000
Bali and Nusa Tenggara	133.500.000	141.000.000	148.500.000
Papua and West Papua	183.500.000	193.500.000	205.000.000
Riau islands and Bangka Belitung	122.500.000	129.000.000	136.000.000
Jabodetabek	133.500.000	141.000.000	148.500.000

*Source: Decree of Minister of Public Works and Housing No. 552/KPTS/M/2016 dated on July 28, 2016. Noted that 1 USD = 14,000 IDR

Table 3 shows that the average prosperous flat prices per m² or per unit are different from one province to others depending on the prices of lands and building materials. The most expensive prosperous flat per m² in the country was sold in the Papua Province for IDR 15,700,000, then West Papua Province for IDR 10,700,000 and then Riau Islands Province for IDR 10,000,000 in 2016. Basically, the MPWH authority may have enough budgets by making a request to the President to build decent flats for the whole country to control the price of affordable housing for LIP in the urban areas.

Table 3 The prices of flat per m² or per unit set in 2016 by the Decree of Minister of Public Works and Housing*

Province/city/regency	Price by (IDR)	
	(m ²)	(unit)
Aceh	8,500,000	306,000,000
North Sumatera	7,800,000	280,800,000
West Sumatera	8,800,000	316,800,000
Riau	9,500,000	342,000,000
Riau Islands	10,000,000	360,000,000

Jambi	8,800,000	316,800,000
Bengkulu	8,000,000	288,000,000
South Sumatera	8,700,000	313,200,000
Bangka Belitung	8,900,000	320,400,000
Lampung	8,000,000	288,000,000
Banten, except South Tangerang City and Tangerang Regency	7,600,000	273,600,000
West Java, except Depok City, Bogor City, Bogor Regency, Bekasi City and Bekasi Regency	7,300,000	262,800,000
Central Java	7,200,000	259,200,000
DIY Yogyakarta	7,300,000	262,800,000
East Java	7,900,000	284,400,000
Bali	8,300,000	298,800,000
West Nusa Tenggara	7,400,000	266,400,000
East Nusa Tenggara	8,600,000	309,600,000
West Kalimantan	9,700,000	349,200,000
Central Kalimantan	9,400,000	338,400,000
South Kalimantan	9,800,000	352,800,000
East Kalimantan	9,900,000	356,400,000
North Kalimantan	9,000,000	324,000,000
South Sulawesi	7,800,000	280,800,000
Gorontalo	8,300,000	298,800,000
Center Sulawesi	6,900,000	248,400,000
South East Sulawesi	8,200,000	295,200,000
West Sulawesi	8,700,000	313,200,000
South Sulawesi	7,300,000	262,800,000
Maluku	7,600,000	273,600,000
North Maluku	9,600,000	345,600,000
Papua	15,700,000	565,200,000
West Papua	10,700,000	385,200,000
West Jakarta	8,900,000	320,400,000
South Jakarta	9,200,000	331,200,000
East Jakarta	8,800,000	316,800,000
North Jakarta	9,600,000	345,600,000
Center Jakarta	9,300,000	334,800,000
South Tangerang City and Tangerang Regency	8,400,000	302,400,000
Depok City	8,500,000	306,000,000
Bogor City and Bogor Regency	8,600,000	309,600,000
Bekasi City and Bekasi Regency	8,400,000	302,400,000

*Source: Decree of Minister of Public Works and Housing No. 552/KPTS/M/2016 dated on July 28, 2016. Noted that 1 USD = 14,000 IDR

The development of the principles of property ownership in the urban area should have a right to practice to scheme of mergers in the ownership of house and land by one owner (Fawaz and Moumtaz, 2017). One unit of flat residence can get a portion of land in accordance with a proportional comparison value to each owner of shared multidwelling building. The application of the vertical attachment principles has been experienced resulting in a heavy burden for LIP because it needs to pay the prices of land and housing environment in order to bear all investment costs raised by the developers (Ball, 1994). Consequently, the price of decent house is becoming increasingly expensive for LIP in the urban areas to contribute to an increase in the housing backlog within a multi-dwelling building. [In this case, the role of local government may be involved in releasing any targeted land from its owner for the development of decent flat with an affordable price for LIP.](#)

4.3.2. Landless households

The landless households refer to privately-owned house detached from a legal regime of lands in the case of only horizontal separation where the ownership of house is different from landowner (Howard-Hassmann 2013; Khamaisi, 1995). The issues of landless households [for the people who living in flat/apartement building](#) can be investigated by granting full individual ownership of one dwelling unit within an apartment building with an undivided ownership interest in the land and other components of building shared in common with other owners of dwelling units in the building [that known as communal right of the land](#) (Antonio and Griffith-Charles, 2019; Wittayapak and Baird, 2018). The people who own or rent a dwelling unit in the apartment building don't have an ownership of the limited land due to one part of land has been used to build many dwelling units of the apartment building and other part of land used for public facilities. Legal certainty of the property ownership to foreigners can be assured in context from reliable sources by a registered deed to the property (Chhibber and Majumdar, 1999). [Even though the people living in an apartment building is not traditionally practiced in Indonesia, the tendency of people in the big cities to buy and live in a dwelling unit of the apartment building will increase from the year to year due to the implications of population growth and urbanization for competitive demands for the use of the land.](#) Legal model of [property ownership](#) can be developed for the provision of affordable housing for LIP. The establishment of land bank institutions can help the government to solve the issues of landless households by introducing a shared-ownership scheme of land and building usage. The possibility of obtaining the land supply to a land bank arrangement for the development of affordable housing doesn't ask to LIP to buy the land even though it is not popular in the eyes of many housing developers. It has been argued that most developers have a motivation to get only small profit from the services of land sales but are basically taking the profits as much as possible from the price of land (Austin, 2010). The government is overwhelmed to provide the land for the development of public infrastructures due to the land tenure by small group of the country's giant developers has been violating the principles of latifundia and absentee landowner as mentioned in the UUPA No. 5/1960. [The involvement of land bank institution is needed to control the price of land provided for the development of landless housing for LIP.](#) Table 4 shows the simulation of land prices by playing the role of land bank institution as the land provider for the development of affordable housing for LIP.

Table 4 Simulation of landless housing prices in the Jabodetabek region*

City/Regency	House price based on the vertical accession principle by (IDR)		House price based on the horizontal separation principle by (IDR)		Saving (%)
	(m ²)	(unit)	(m ²)	(unit)	
West Jakarta	8,900,000	320,400,000	4,000,000	144,000,000	55.06
South Jakarta	9,200,000	331,200,000	4,500,000	162,000,000	51.09
East Jakarta	8,800,000	316,800,000	4,000,000	144,000,000	54.55
North Jakarta	9,600,000	345,600,000	4,500,000	162,000,000	53.13
Center Jakarta	9,300,000	334,800,000	4,500,000	162,000,000	51.61
South Tangerang City and Tangerang Regency	8,400,000	302,400,000	3,800,000	136,800,000	54.76
Depok City	8,500,000	306,000,000	3,800,000	136,800,000	55.29
Bogor City and Bogor Regency	8,600,000	309,600,000	3,800,000	136,800,000	55.81
Bekasi City and Bekasi Regency	8,400,000	302,400,000	3,800,000	136,800,000	54.76

*Source: The community paradigm development model of house ownership separated from the land to accelerate the provision of affordable housing for LIP. Final Report, University of Djuanda, 2016.

Noted that 1 USD = 14,000 IDR

The development of five-story residential building to avoid a long elevator ride was referenced to calculate the prices of one dwelling unit within a multi-dwelling building (Al-Kodmany, 2015). One dwelling unit has a floor space of 36 m² to divide it into two bedrooms, one living room, one dining room and one kitchen. Establishing a reasonable land price for the Jabodetabek region as shown in Table 4 was calculated based on the average cost to build a five-story residential building. The property of one residential dwelling unit can be bought with an ownership title for a sales price of such as IDR 136,800,000 (IDR 3,800,000 per m²) based on the simulation of one dwelling unit price in accordance with the horizontal separation principle. Using the quality building materials in the construction of multidwelling building, whether they are first or second quality certified materials, can have the lifespan of five-story residential building over 60 years. By comparing the sales price (see Table 4) of one dwelling unit constructed based on the vertical accession principle to that constructed based on the horizontal separation principle can save more than 50% of income toward the necessity of affordable housing. Therefore, the involvement of land bank institution can help the government to properly manage the provision of lands in the Jabodetabek region for development of affordable housing for LIP. The accessibility of lands can reduce the housing backlog to LIP in line with the nation goals to achieve a better and more sustainable future for all citizens to enjoy peace and prosperity.

5. Conclusions

This study reviewed the legal basis, land use issues, land bank and land supply to get better understanding on the prevision of land for development of affordable housing for LIP. [The practices of latifundia and absentee landowner in Indonesia can be minimized by involving the role of land bank institution.](#) The establishment of land bank institution is [considered as an effective way to supply enough lands and may help the government to solve the land-use problems](#) to accommodate the needs of different interests. [Many types of land tenure may be released from owners by the local government in accordance with the law](#) by involving the role of land bank institution to provide a legal certainty of the land acquisition [for development of affordable housing for LIP and construction of infrastructures](#) for public interest. The analysis of the landless housing prices for the development of five-story residential building in the Jabodetabek region can save more than 50% of income toward the necessity of affordable housing and this may contribute to support a decision making process in providing a cheaper price of decent house for LIP in the future.

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A review of the establishment of land bank institution in Indonesia for effective land management of public interest

Abstract

It is not easy to get a decent housing for low-income people (LIP) due to the limitation of land available for development in the urban areas allows speculators to retain the benefits of land in an unregulated commodity business. This study reviews the legal basis, land use issues, land bank, land supply models and affordable housing price to get better understanding on the provision of land for the construction of infrastructures to serve public interest and for the development of affordable housing for LIP in the urban areas. The establishment of land bank institution in Indonesia is considered important to accommodate the need of lands in the urban areas for a wide array of purposes. The analysis of landless housing prices in the Jabodetabek region for the development of five-story residential building can save more than 50% of income toward the necessity of affordable housing for LIP and this contributes to get better understanding on the decision making process by the provincial government of Special Capital Territory of Jakarta.

Keywords: affordable housing; Jakarta bay reclamation; land bank institution; land supply model; legal basis; low-income people.

1. Introduction

Indonesia is the country with the largest population of Muslims in the world and hosts approximately 13% of the world's Muslims (Hefner, 2016). Muslims believe that God forms the man from the dust of the ground, then returns to the land and then resurrects again from the land, as mentioned in Surah 20 Verse 55 of the Holy Al-Qur'an. The word "land" has been mentioned more than 20 times in the Holy Al-Qur'an and is convincingly and legitimately the property of God. Humans can survive on the earth because of the land holds fortune from the sky. Therefore, no man or state can claim as the owner or the absolute ruler for the land over the world. The establishment of a state should basically have the territory under which all grace-gifts from God in the forms of land, sea and airspace must be controlled. The constitutional power of the government over the territory of Indonesia as stated in Article 33 paragraph 3 of the 1945 Constitution of the Republic of Indonesia that the land shall be controlled by the state and shall be made use for the prosperity of all people. Although the country maintains absolute power over the land, the country grants fiefs to landholders who served as citizens, paying the land tax and cultivating the agricultural lands (Khan, 2001). The 1945 Constitution mandates the Republic of Indonesia to administer the land and human settlement. A change in the relationship of humankind to land is one of the most important influences on the development of land administration systems to organize all the regions of Indonesia while a relationship has always been dynamic (Axinn and Ghimire, 2011).

The fourth paragraph of the Preamble of the 1945 Constitution states that the formation of government of the Republic of Indonesia shall protect all people of Indonesia and their entire native land in order to improve public welfare and to

advance intellectual life of the people. Two of four goals of establishing the Republic of Indonesia emphasize the role of country to protect the nation and homeland for the prosperity of people. The fifth principle of Pancasila as the foundational philosophical theory of Indonesia state the social justice for all people, whereas the government has a state-administered mandate to organize land for the prosperity of society. The government of Indonesia faces great difficulties in getting access to provide the lands for the massive infrastructures development in all regions with the authority to tax to finance it (Nasution, 2016). The government of Special Capital Territory (DKI) Jakarta may have many obstacles for building affordable housing for the residents of Jakarta city in order to provide a better service to meet the principles of Pancasila due to the corruption has been around for five decades in the delivery of infrastructure services (Widoyoko, 2007). Given the price of undeveloped lands in some prime locations of the Jakarta city has become more expensive than second-hand apartments to incriminate the low-income people (LIP) to buy one unit of house. Vertical housing development has been made for some regions of Jakarta based on the distribution pattern of the land and apartment prices to meet growing demand to supply housing stock at affordable prices for LIP. However, the LIP must pay the price of land according to a proportional comparison value of the property rights to flat component (Kendall and Tulip, 2018). The fact that it is an irony in administering of land in Indonesia due to the authority of government can be negotiated by the private sectors.

Increasing the area of land and natural resources to have been under the control of the private sectors has fundamental implications in providing the affordable price of house for LIP in the big cities (Fulazzaky and Gany, 2009; Hazell and Wood 2008) and in ensuring the provision of agricultural lands for the rural poor (Barbier and Hochard, 2016; Fulazzaky, 2017). It is inseparable from the implementation of the weak government practices in administering the lands in all regions of Indonesia. The cases of land dispute in the court even to the Supreme Court have been reported approximately 50% of all cases addressing the Supreme Court to have been drained energy of the nation due to they create economic disparity and jealousy (Ilorah, 2009; Yu and Wang, 2017). The cases of Potanigrah, Meruya, Kedoya, Tanjung Priok, Outer Batang and others with a total civil court verdict of 7861 decisions in the last 10 years have been seen as controversial in administering the lands of certain areas in Indonesia (Power, 2018). On the economic growth pathway, the concern of the real estate business to abandoned lands is the main reason for the shrinking lands, and the real estate development on an abandoned land leads to an increase in the land price (Li and Li, 2017). A real estate company that having a vast land tenure may control the land latifundia (Paulino, 2014). Consequently, it has been violated Article 17 of the Basic Agrarian Law No. 5/1960 (UUPA No. 5/1960) on latifundia to violating the latifundia ban by practicing over land control of controlling the lands outside the territory of domicile. For a long-term solution, a viable incentive of LIP tax credit offered by the government to private sector to encouragingly invest in the provision of affordable housing must extend beyond regulatory compliance, while the incremental costs of providing social and public facilities might be partly met from public funds in the form of service payments for allowance of various benefits received from social and public facilities to residents of the residential complex. The objectives of this paper are: (1) to review the existing evidence-based practices of legal basis, land use issues, land tenure arrangement models, and land supply models to get better understanding on the proposition of establishing the land bank institution in Indonesia and (2) to offer a new concept of the land tenure and distribution to ensure enough

lands for the development of affordable housing for LIP and the construction of public infrastructures.

2. Land use issues

The land tenure of the people is regulated by the government based on the rights of the state to administer the land as stated in Article 2 paragraphs 1 and 2 of the UUPA No. 5/1960. The government has the rights to regulate the allotment, use, provision, and maintenance of land (Trembecka and Kwartnik-Pruc, 2018) and also has the rights to regulate the legal relation between legal subject and land (Cotterrell, 2000). The authority of granting the land rights in Indonesia is fully controlled by the government where the National Land Agency is the leading sector of land administration (Akinola, 2018). The involvement of other government agencies to regulate the lands includes the Local Government, Ministry of Environment and Forestry, Ministry of Agriculture and Ministry of Maritime Affairs and Fisheries. The idea of the Indonesian Law to involve many government agencies in the management of land could be due to the land as a gift from God should be easily used as much as possible to the welfare of people (Pillay, 2017). Contrary to the Law No. 1/2011 on Housing and Resettlement Area that regulates the decent housing prices, the price of land becomes increasingly unreachable by the people (Elmanisa et al. 2017). Many government officials face difficulties to get an available land for the development of public infrastructures, including the provision of land for the construction of affordable housing to LIP in the urban areas. Figure 1 shows the paradigm shifts in the land tenure for the most public lands in Indonesia to deal with an effective performance appraisal process regarding the reasons of increasing the price of lands becoming away from reachability of the people.

(Fig. 1 should be here)

The complexities of valuing the lands are related to the absence of an appropriate and strategic land management policy framework (Chirisa et al. 2014) due to the rights of state as delegated by the UUPA No. 5/1960 to the government are not functioning properly. An increase in the price of residential lands is because the effects of land management practices on the fluctuations of land appraising as shown in Fig. 1 are due to: (1) the paradigm views the land, especially for the rural area, as something sacral, religious, magic, dignity and honor since the land owned by clan elite although the land ownership of urban area may gain the social status of successfulness, wealth and prosperity, (2) the land tenure is a really important part of the invest in commodity-related businesses, (3) the excessive tenure practices can violate the prohibition of latifundia, leading to the control of land is dominated by the handful of people or large corporations, (4) the practice of absentee land tenure results in increasing the amount of abandoned land, especially for the areas surrounding a big city, (5) the deviation of land use planning, especially for the agricultural land, can ignore the principle of land reform due to the weakness of local land tenure management system, conflict of interest and complex issues of the land tenure and (6) the ambiguous authority between local and central government can limit the engagement of the government officials with professional practices.

The oligopoly in real estate development of land ownership (Coiacetto, 2009) that controls the lands for plantation, farm, timberland and large real estate consisting 25

groups of the private companies with a majority-owned venture by the tycoons has been given enough authorities by the local and central governments to deal with the management of approximately 5.1 million hectares (Mha), whereas Indonesia covers around 10 Mha of the total industrial oil plantations (Gaveau et al. 2016). Noted that tycoons are the persons of ethnic Chinese in Indonesia who are successful in the property business and have become very rich and powerful through their ownership of the lands. A land area of 128.297 km² is estimated to be nearly half of the Java island land area, where approximately 2 Mha of that land has not been planted and unfortunately part of it is becoming a neglected land. Figure 2 shows part of the private palm oil plantations in Indonesia controlled by a small group of the large plantation owners that control the production and market for palm oil to be represented by no more than 3% of whole Indonesian population.

(Fig. 2 should be here)

The top 10 landlord real estates in Indonesia include: PT Agung Podomoro Land Tbk, PT Agung Sedayu Group, PT Alam Sutera Realty Tbk, Ciputra Group, PT Intiland Development Tbk, PT Lippo Karawaci Tbk, PT Pakuwon Jati Tbk, PT Paramount Serpong, PT Summarecon Agung Tbk and Sinarmas Land Group. The involvement of these 10 real estate companies to boost housing development has completed hundreds of the large-scale residential projects in almost all major cities of Indonesia (Rakodi and Firman, 2009). In recent case of the Jakarta bay reclamation projects, the real estate construction and development projects require the expertise of managers who have experienced with many large-scale property projects. Therefore, all these landlord real estates have been qualified to be worthy of doing together the projects of reclaiming 17 artificial islands in the western outskirts as a new district of the Jakarta city (see Fig. 3). A preliminary analysis of the project indicates the needs to construct a new airport and to expand the Jakarta Port of Tanjung Priok (Jayanthi and Damayanti, 2015). It seems that a reliable program of providing affordable and livable housing for all levels of society including LIP is still not considered better approach than spending a building out a more complete for the rich people. Role of the DKI Jakarta government in the provision of affordable housing to LIP is very important in the decision-making of developing the new resettlement areas with a concept of residential balance in accordance with the Decree of Minister of Housing Affairs No. 7/2013 due to the urban poor provides cheap labour and may handle typical works that are not usual to the rich. It is suggested that alignment among the various political stakeholders has to do with adjusting the project approach and schedule. Although it has been claimed that one of the Jakarta bay reclamation purposes can solve the problem of water quality (Fulazzaky, 2009; Fulazzaky, 2010; Kooy and Walter, 2019), the direct effects of border wall construction and maintenance will be destroying not only corals but also entire way of habitat life in the area of the Jakarta bay reclamation projects. This may force the local fishermen and fish markets in the project-affected communities out of their businesses. Successful project delivery requires the implementation of correct decision making systems (Jawad et al. 2018) that may control the quality and potential of land space development in the provision of affordable housing for all levels of society, including for LIP. Indonesia faces challenges with the land tenure issues in providing the affordable housing for LIP in the big cities and the opportunities to access and utilize the agricultural lands for the rural poor due to the increasing of land price is far from a reachability of the people. The role of the State in controlling the price of lands can

optimize by establishing the land bank institutions at every level of the government to prevent the practice of violating the principles of latifundia and absentee landlords associated with the legal land use management.

(Fig. 3 should be here)

3. Land bank

A land bank in Indonesia is proposed as the government social and financial institution that strikes a balance in fulfilling its social mandate of promoting a land tenure reform for the provision of affordable housing development in the urban areas and the management of agricultural lands in the rural areas while remaining financially viable. Created a land bank is to secure the land tenure and property rights in the urban areas and to finance the acquisition and distribution of agricultural lands for division and resale to small landholders and to promote the purchase of landholding by the tenant farmers of agricultural lands in the rural areas. Land banks are designed to acquire and maintain the price stability of the lands (Aryeetey and Udry, 2010). The land tenure issues in structured real estate development of the residential buildings need to be resolved by transferring back to the responsible ownership and productive use to meet the local land use goals and priorities (Briassoulis, 2019).

3.1. Land bank model

The land bank model has been recognized for the provision of affordable residential and settlement lands for LIP in the urban areas by creating the environment ready to build and area ready to build. The state-owned enterprise of the Perum Perumnas has worked with a land bank model under supervision of the Ministry of Public Works and Housing (MPWH) to supply lands for the development of affordable housing for LIP in two provinces of East Java and Banten by providing the residential land of 400 ha at Driyorejo - Gresik of East Java Province in 2014 and that of 144 ha at Cengkareng of Banten Province in 2013. The land acquisition of 500 ha in the Jakarta city for the Pulogadung Industrial Estate in 1973 and that of 245 ha in the Surabaya city for the Surabaya Industrial Estate of Rungkut in 1974 have been shown to be effective in the provision of lands for affordable housing to LIP in the two big cities. This land-tenure based model was followed by the development of residential and industrial estates owned by the central and local governments and this can be seen as the embryo of land bank model in Indonesia. Land bank institutions can basically serve as the means of providing the lands with the support of several sources of funding (White et al. 2012). Acquisition of land can be solved using the land bank model to support the provision of lands in the development of industrial estate (Mukerji, 2017). Any speculative activities that can threaten affordable housing supply must be avoided to possibly create a more efficient and effective land management system (Fatta, 2014). Created a land bank institution in Indonesia as the legal entity for sustainable land management must be funded by either local or central government budget and is a public authority operated to efficiently hold, manage and develop the tax-foreclosed property.

3.2. Roles of land bank

The establishment of land bank institutions is required for strengthening the national development in the implementation of constitutional rights and is very urgent for the execution of a more just and prosperous spatial and regional planning plan (Busroh and Santiago, 2017; Mycoo, 2017). Land bank institution has its main roles to inventory, plan, implement, control and notify all stakeholders who hold land tenure for any area (Marey-Pérez et al. 2014). According to the UUPA No. 5/1960, the obligation of land bank institution is assigned to bear the state responsibility for realizing the welfare of all its citizens and shall at all times ensure fair and equitable, based on the spirit of Article 33 paragraph (3) of the 1945 Constitution. The implication of establishing the land bank institutions may accommodate all land use needs for the developments of road, highway, dam, market, hospital, school, office, sport facility, port, airport, etc., to support the realization of many public infrastructures. However, the land bank institution might have to face challenges in carrying out its duties as the primary land use control authority of the country, notably the need for better cooperation with the partner institutions, and must consider the sensitive issues as being particularly prone to conflict. Topic issues of land management should identify the main ideas of establishing the land bank institutions, such that: (1) the procedure of land procurement for development in the public interest should be clear. Regarding the economic, social and cultural rights of local people must be considered to get a view on the pros and cons of the process of land acquisition (Abbink, 2011). The implementation of good governance in land tenure and administration needs to be improved the concept of sustainable land management by involving the land bank institution for avoiding any dispute and delay in the process of land acquisition, (2) the land management paradigm in mindset of some Indonesian people to be considered certain parts of the lands as sacred, sensitive and magical religion drives the land management systems dealing with land rights, restrictions and responsibilities to support the development of public infrastructures (Stringer et al. 2017). However, the land being treated as the object of the investments and speculative activities to have been tolerated by some individuals would take a lot of energy and conscientiousness to reprogram the subconscious mind, which would result in the paradigm changes. The fact that the procurement of land for any purpose cannot be separated from a conflict and is the subject that cannot be solved with a competent authority in the scientific discipline, and (3) it is necessary to establish the land bank institution with part of its roles to manage the land procurement for public interest based on the principles of legal certainty. The government policy may refer to socio-cultural and religious beliefs in certain cases of land management to safeguard forest and water resources through sustainable land, water and forest management by involving the land bank institution for the development of more just spatial plan to all people. The management of lands in many regions of Indonesia is unique and specific and has a socio-cultural even mystical and religious relationship. Therefore, the land management system by involving the land bank institution does recognize some customary laws which have the sources in diverse traditional customs of land management, such as Subak land management in the Bali Province, Swapraja land management in the Special Province of Yogyakarta, Dalihan Natolu land management in the Tapanuli of North Sumatra Province and Tanah Ulayat land management in the West Sumatra Province.

The establishment of a land bank institution to execute the legal process of acquiring the lands of individual citizens or organizations for any purpose can meet the minimum standards for a land acquisition with its roles: (1) as land keeper, the land

bank institution can collect the data of land such as land tenure, land ownership and land use planning. All data must be accurate, factual and complete, (2) as land warrantor, the land bank institution must pay attention to the planning periods of national and local spatial plans because it has the responsibility to control the land procurement procedures and processes either by trading, exchange or disposal of right, (3) as land price controller, the land bank institution must ensure the market penetration strategy to prevent the control of land by any particular groups, (4) as property valuer, the land bank institution must prepare the value range pricing strategy of property to compensate speculators for use of the limited availability of land for the public interest in urban areas due to Indonesia has for some decades faced a progressively limited availability of land for the public interest, (5) as land distributor, the land bank institution can engage in the distribution of land for the construction of affordable infrastructure and housing to ensure that the land insurance can be obtained by the owners to have a suitability of investment in the marketable securities and (6) as land manager, the land bank institution may manage the storage, determination, planning, use and supply of the land in order to organize the provision of land for all land use needs to avoid any speculations.

Land bank must focus to not only on the provision of lands for infrastructure and public utilities but can also be directed to the importance of land provision for development of affordable housing for LIP. In the broadest view, there are three phases of land acquisition: preparation, implementation and control (Moyo, 2011; Tagliarino et al. 2018). Land bank institution must be familiar with a license to acquire the property with detailed spatial plan, occupied area and infrastructure development and has a key role to hold control data generated by three main activities of provision, maturation and distribution of lands for any purposes (Fulazzaky and Akil, 2009). There are four ways to acquire the land resources: consolidation, buying and selling, exchange and disposal of property rights. The political economy of land market can be made according to a land supply model managed by the land bank institution to acquire enough lands, which is dependent on the government agenda (Li et al. 2015), and must be legally justified in the provision of land for development of affordable housing for LIP to avoid any practices of latifundia and absentee landowners. The establishment of land bank institutions strikes a balance in fulfilling its social mandate of promoting affordable housing development and is required at the national, provincial and district levels in Indonesia.

3.3. Establishment of land bank

Land bank institution as the governmental entity or nonprofit corporation can be established at the national, provincial and district levels and is assigned its responsibility and authority to focus on the conversion of vacant, abandoned and tax delinquent lands into productive use (Alexander, 2005). Type of land bank institution can be created in the form of either government agency or state-owned enterprise or public service agency with its legal basis, legal body and scope of work as described in Table 1. Legal basis for the establishment of land bank institution in Indonesia must be based on the Law of the Republic of Indonesia (UU) or the Government Regulation of the Republic of Indonesia (PP) as the Law Substitution.

Table 1 Type of the land bank institution in Indonesia

Type	Legal basis	Legal body	Scope of work
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Government agency	PP No. 27/2014 on state/regional-owned property management	Ministry of Agrarian Affairs and Spatial Planning/ National Land Agency	(1) to regulate the planning, designation, use, acquisition, and consolidation of lands and (2) to regulate the selling of lands encountered barriers in accordance with the provision of state assets.
State-owned enterprise	UU No. 40/2007 on limited liability company. UU No. 19/2003 on state-owned enterprises, juncto PP No. 45/2005 on state enterprise establishment, management, supervisions and dissolution.	Central land bank company	(1) to arrange the planning, designation, use, acquisition and consolidation of lands, (2) to remove and transfer the lands and (3) to place the property in form of income into company (inbreng) or to into profit-driven rights management and profitability concession contract like cultivation rights.
Public service agency	PP No. 23/2005 on financial management of public service agency as amended by PP No. 74/2012.	Land public service agency	(1) to arrange the planning, designation, use, acquisition of lands, (2) to consolidate, to remove and to transfer the lands and (3) to replace the lands and to make the land use concessions with a nonprofit use agreement.

*Sources: (1) PP No. 27/2014 on state/regional-owned property management, (2) UU No. 40/2007 on limited liability company, (3) UU No. 19/2003 on state-owned enterprises, (4) PP No. 45/2005 on state enterprise establishment, management, supervisions and dissolution, and (5) PP No. 74/2012 on financial management of public service agency.

Establishment of land bank institution as the legal entity engaged in land acquisition must be equipped with a professional team and a strong capital base to encouragingly reduce the negative externalities of lands and properties in Indonesia (Whitaker and Fitzpatrick IV, 2016). The source of financing a land bank institution can be allocated part from state budget and part of budget from service charge contribution to have been considered the land price fluctuations from the year to year. The effectiveness of land bank working system is seen in the speed and accuracy of acquiring lands for development of either affordable housing or infrastructure for public interest due to the fluctuation of land price would be dependent on the value of houses and buildings at nearby locations (Zhuang and Zhao, 2014). Legal entity of the land bank can be established based on the Act for urban and rural areas (Alexander, 2005). A land bank institution must be separated from other government agencies and avoided from political and business interests (Berdell, 2017) and has its responsibility to return the land and property to a productive use, which is not handled by other government institutions. It is suggested that land bank institution can be named with the reliable name such as the National Public Service Agency at national level, Provincial Public Service Agency at provincial level and District/Municipal Public Service Agency at district/municipal level. The role and responsibility of land bank institution at every level of administration must be assigned by the Act to allow the supply of land to an appropriate use of the available productive lands.

4. Land supply

This section provides the acquisition of lands and the description of different land supply models in Indonesia. The land supply models are related to the utilization of abandoned land, corporate social responsibility, regional assets, national and regional funds, land enclave, ulayat land and land of the Jakarta bay reclamation.

4.1. Land acquisition

The compulsory acquisition of land is increasingly important due to the rapid economic growth of Indonesia can cause changes in the land use over time and has always been a delicate issue to affect the decisions of land-use allocation (Shi et al. 2018). One of the land bank responsibilities is to acquire the lands according to the spatial planning policy to plan, provide, designate and use of the land surface for specific purposes. The arrangement of land, land consolidation and housing development for LIP in the urban areas has been set to status of controlled rental housing according to the Law No. 2/2012 on land procurement for public utilities construction. Local tax object sale value may help the land bank institution in determining the base price of lands to be socialized to people who have the lands of being acquired by transaction processing model for buying and selling, or exemption of the property rights (Posner and Weyl, 2017). The role of land bank institution may resolve many toughest barriers of land acquisition to avoid any speculations with a thoughtfully execution.

4.2. Land supply models

The goal of this section is to review the various existing models of land supply to support the land bank management framework of providing enough lands for public interest. A demonstrative evidence of the land supply models does exist in Indonesia even a part of these models has been regulated in the law. The management of land transaction by involving the land bank institution may maintain the suitability of different land supply models to undertake the just distribution of lands for use in the development of affordable housing for LIP in the urban areas or the construction of infrastructures served to public interest.

4.2.1. Utilization of abandoned land

According to the PP No. 36/1998 on control and utilization of abandoned land, the criteria of neglected land are the lands to have not been utilized and/or maintained properly and the lands to have not been used in accordance with the circumstance, nature or purpose of granting the rights. The tendency of abandonment to exceed the rate of land use is the land abandoned to not only the plantation areas (Jaquet et al. 2019) but also the areas of land around the cities, such as the areas of land around the region of Jakarta, Bogor, Depok, Tangerang and Bekasi, known locally as the Jabodetabek, the region of Gresik, Bangkalan, Mojokerto, Surabaya, Sidoarjo and Lamongan, known as the Gerbang Kertosusilo, and the region of Medan, Tanjung Morawa, Binjai and Deli Serdang, known as the Mabide. Agricultural land tenure by the private companies can affect the urbanization of people from the rural areas to big cities due to many people had been losing their lands as the most important natural resources for livelihood to sustain the basic needs in rural areas and in small towns

(Satterthwaite et al. 2010). More than half of the population lives in the urban areas, which grows at the rate of 4.1% per year, is predicted to reach 68% of the Indonesian population in the cities by 2025 (Wajdi et al. 2017). The problem of latifundia by violating the UUPA No. 5/1960 and the Regulation of Minister of Agrarian and Spatial Planning/Head of the National Land Agency (Permen ATR/BPN) No. 18/2016 on service of transfer of certain right-to-build titles in certain areas has widespread consequences to have been the basis of extreme inequities in the wealth and biodiversity loss in Indonesia (Chaves, 2013). The Government Regulation in Lieu of Law (PERPU) No. 56/1960 on stipulation of area of agriculture land regulates the limitation of private land ownership based on the population density, as follows: 20 ha of not as densely populated area, 12 ha of least densely populated area, 9 ha of densely populated area and 6 ha of most densely populated area. Land tenure by small group of tycoons in the practices of latifundia and absentee landowners have been violating the principles of land ownership regulated by the PERPU No. 56/1960 and are the origin of uncontrollable land prices. The problem of land speculation can lead to an incidence of rising land prices (Wissink et al. 2017) and may result in scarcity of land procurement for the development of infrastructures for public interest and for the provision of affordable housing for LIP in the urban areas. The management of soil functions using a public service agency model by the land bank institution can transfer the abandoned lands to a voluntary land-granting model by the tycoons of land rulers as an act of honor according to the fifth principle of Pancasila. The government can issue a decree on the suspension of exercising any control over the access of speculators to the land rights for the interest of people pursuant to the applicable provisions according to the principle of ready to share land with the people.

4.2.2. Corporate social responsibility

Land tenure by the state-owned companies, national or multinational corporations around the factories and plantations can be setting aside a part of their lands to land bank management program for development of affordable housing for workers through a profit sharing scheme mechanism to have a corporate social responsibility (CSR) system. The obligation of the land ownership to provide a part of his land for his workers must be regulated by the government by converting it to the CSR costs or to include a tax deduction (Howard-Hassmann, 2013). Many large corporations in Indonesia have a responsibility to provide enough dormitories for their workers. A worker will be asked to leave his dormitory by the following cases: when a worker retires or when a worker quits working for the company. In certain cases, a worker who has retired from a company was forcibly removed from his dormitory (Lee and Smith, 2009; Maestas, 2010) due to serious concern of possible risk to the provision of dormitory for a new worker if a worker who has retired still staying at his dormitory to possibly face with a bailiff. This paper suggests that the establishment of land bank institution is required for every plantation land of larger than 500 ha, every residential estate of larger than 150 ha and every industrial estate of larger than 100 ha with an obligation to set aside at least 5% of their land for the benefit of their workers, according to the Indonesian Law No. 40/2007 on limited liability companies. The largest private and public companies that operate on small plots of lands at different locations may contribute an obligation by setting aside 5% of their annual company's profits to provide enough lands for the development of affordable housing for their workers by involving the role of land bank institution.

4.2.3. Regional assets

The regional assets consisting of the moving assets such as animals, furniture, vehicles and non-moving (fixed) assets such as lands, buildings and other pre-existing facilities are owned either by city, regency or province. The purpose of utilizing the regional assets, which are managed by the Regional Asset Management Board, is to make a benefit for the regional incomes. Many land assets in Indonesia are neglected due to the leadership of the local authorities doesn't to seriously take care of land for the purpose of infrastructure development for public interest and affordable housing for LIP. Because the legal recognition of collective land ownership is still not getting much attention, the regional economic growth and development cannot yet match the expectancy of people in the last decades due to many collective lands cannot be used by the third parties to increase economic growth of the region (Barca et al. 2012). Legal status of collective land must be regulated by the Local Government Act to allow the people having to work more closely together to develop effective land uses to increase the regional income. Fair market value of donated benefit from collective land tenure must be determined on the basis of the local earned income tax by the local government for each year. The management of collective land by the local government can be designed as an initial capital investment of establishing the land bank institution (Busroh and Santiago, 2017). The village cash lands of crooked land, kitsitir and gogolan in the Java island that have been applied to change the status of a village into a town must be submitted to the regional assets. The densely populated provinces of Banten, West Java, Central Java and East Java can utilize the village cash lands to invest in their land banks. Certain regions of district, municipality or province like Cirebon, Yogyakarta Special Region, Medan, Surakarta and other regions that have an ex-kingdom land can utilize their untapped lands to be handed over to a land bank institution for the development of affordable housing for LIP.

4.2.4. National and regional funds

In Indonesia, each local government is at the forefront of national movement to encourage land purchasing to support the development of infrastructure for public interest and affordable housing for LIP. One of the ways applied to encourage every local government to purchase the lands is channeled the special allocation funds by central government to the district/municipal and provincial governments (Gray and Barford, 2018). Federal government of the United States allocates the state budgets to the land bank institutions of being submitted by each state for every year while the state-controlled lands are mostly used for the construction of affordable housing for people (Wallis, 2000). In Singapore, the Housing Development Board is entrusted to handle the tasks of providing affordable housing for the people (Beng-Huat, 1996). The formulation of land related policies in Indonesia requires a clear understanding of the regional and national frameworks and is in an urgent need of the sufficient lands by setting aside 5% of the local budgets to the acquisition of targeted lands by the local government for development of affordable housing for LIP and infrastructure for public interest, while the central government may consider to support the construction of infrastructures and public facilities.

4.2.5. Land enclave

By definition an enclave of the territory or part of the territory is entirely surrounded by the territory of other state (Jones, 2009). Some of the enclaved states include Lesotho, Vatican City and San Marino due to Lesotho is surrounded by South Africa while Vatican City and San Marino are surrounded by Italy (van Schendel, 2002). Similar to an enclave definition of the state territory can be used to describe an enclave of the agricultural land to support the land supply models. A land enclave of the cultivation rights (HGU) of the lands for the PT Perkebunan Nusantara (PTPN) at certain locations in Indonesia has a large piece of the agricultural land surrounded by many small pieces of lands owned by many people. The oil palm plantations around the cities of Deli Serdang, Serdang Bedagai, Simalungun and Medan of the North Sumatra Province are surrounded by many villages that have many houses, buildings, agricultural lands and other land service facilities owned by different land tenures.

Many tea plantations managed by the PTPN 8 in the Jabodetabek region have a large enough piece of enclaved lands as the sources of lands for shared equity homeownership program of the land bank. The only way powerful enough to stop the tenure of agricultural lands by the PTPN 8 is the enactment of the Local Government Act on land use and land tenure system. The local government can then stop the validity of HGU PTPN 8 by implementing the related law to avoid any land litigation issues from a company and community around the plantation lands. The release of land for public purposes has been practicing at certain areas of Cisarua - Bogor, Subang and Sukabumi in the West Java Province as well as at Helvetia, Percut Sei Tuan, Saentis and Kualanamu of Deli Serdang and the area surrounding the Medan city in the North Sumatra Province. A dienclave model project of agricultural lands released from the PTPN must be initiated by the land bank institution due to the public housing projects to provide the affordable housing for LIP are initiated by the local government rather than the results of ruislag done by the largest private companies (Zhou and Ronald, 2017). Figure 4 shows the flowchart of dienclave model of HGU PTPN in the favour of redistributing many small pieces of lands to LIP by involving the land bank institution. In many cases of the Jabodetabek region, the illegal buildings such as hotel, villa and educational center can be built by the surrounding community during the ruislag practice of plantation lands and therefore need to be regulated by the land bank institution to develop the ways of incorporating community safety within spatial planning and management policies. Land release program for the development of affordable housing is part of the land bank program that deals with transfer of plantation land to LIP and should be executed under the authority of the district/municipal government after the HGU period expires. During the implementation of dienclave model project, it should not be directly submitted the released lands to many individuals but must be identified and managed by the land bank institution.

(Fig. 4 should be here)

4.2.6. Ulayat land

Ulayat land is a piece of the land that having an ulayat right of the customary law community over a particular land (Bedner and Van Huis, 2008). A customary law community is defined as group of people who are bound by the customary law due to the customs at the location of their residence are bound by their traditional inheritance rules. Ulayat right is a right given by the customary law community over a piece of

land to the authority of particular customary law (Ifrani et al. 2019). With this authority allowing a community manages the rights to explore and exploit natural resources as the benefits generated from a land for survival. The rights of indigenous people in Indonesia are recognized from the UUPA No. 5/1960 which applies to earth, water and airspace. The relation between customary law community and ulayat land is comprehended by sanctifying a particular land due to the traditional sacred lands in defense of cultural survival, human rights and the environment is the foundation of such land management (Urano, 2014). An ulayat-owned land does not mean the land owned by local government or individual but rather a customary law community. It seems that the important role of the authorized indigenous non-formal leaders within a customary legal community may work closely with the land bank institution for the release of ulayat land for the development of affordable housing for LIP. The construction of a house on the ulayat land has been already initiated before the independence of the Republic of Indonesia in the West Sumatra Province (De Royer et al. 2015). The Minangkabau people of West Sumatra Province have been already known with a family-owned property. In case of the ulayat land as land care model can be used as the most feasible alternative because it may be possible to process the transfer of management rights of the ulayat land belonged to one family from a customary law community to the land bank institution.

4.2.7. Land of the Jakarta bay reclamation

The reclamation project of Jakarta bay determining a long-term vision to handle the ecological conditions in the northern coastal areas of the Jakarta city has been started since 2016 without a first detailed examination of the short-term ramifications (Ajiwibowo and Pratama 2018). The ads of Jakarta bay reclamation plan have been spreading to China, Europe, Hong Kong, Japan, Malaysia, Singapore and the United States of America (Minkman et al. 2019). The reclamation of Jakarta bay to cover the development of 17 artificial islands became subject to the topic of heated debate during the gubernatorial election campaign in 2017. According to the Regional Regulation of DKI Jakarta No. 1/2012 on spatial plan 2030, the project of Jakarta bay reclamation, which adds 5,100 ha to be approximately half the size of Bogor city to increase the surface area of Jakarta city, would benefit all Jakartans. Figure 5 shows the land tenure and land use planning of the Jakarta bay reclamation to be submitted to eight largest real estate private equity firms and the government of DKI Jakarta Province. Referring to Article 33 paragraph (3) of the 1945 Constitution to promote a general welfare of people, it is suggested that the responsibility of the DKI Jakarta provincial government is to provide at least 50% affordable housing for LIP. There is a land bank institution more likely than commercial real estate firm to express favorable views of affordable housing development for LIP. However, the reclamation projects of Jakarta bay executed by the country's eight giant developers as shown in Fig. 6 are to only focus on the benefits for the investment and business interests of the tycoons. By establishing the Provincial Public Service Agency, the government of DKI Jakarta Province can help the LIP in the Jakarta city to assess and manage their own risk to have a decent house by providing affordable housing in certain areas of every artificial island. An incentive program in the development of Jakarta bay proposed by the DKI Jakarta provincial government may take a variety of forms such as tax breaks, building supporting infrastructure, or workforce development to encourage the developers to voluntarily provide a part of their reclaimed lands for the development of affordable housing for LIP. Or the

government of DKI Jakarta Province may buy part of the lands from the developers to provide the lands for development of affordable housing for LIP and public facilities, according to UUPA No. 5/1960. According to the above review of different land supply models, the role and responsibility of land bank institution may involve in the management of the various existing models of land supply to provide enough lands for the development of affordable housing for LIP.

(Fig. 5 should be here)

(Fig. 6 should be here)

4.3. Affordable housing

The goal of this section is to review the prices of affordable housing that have been set by the government and the simulation of landless housing prices in the region of Jabodetabek to get better understanding on the economic benefit of sustainable land management by involving the land bank institution.

4.3.1. House price

The government of Indonesia has determined two types of affordable housing: tread house residence and flat residence (Widoyoko, 2007). The Ministry of Public Works and Housing (MPWH) has a constitutional authority to regulate the price of tread houses and flats through a Decree of the MPWH No. 552/KPTS/M/2016 at an affordable price in all regions of Indonesia, as shown in Tables 2 and 3. Real prices of affordable housing differently react to economic growth depending on many factors such as cost of construction, growth rate of underlying population, real income in the area, and size of the area. A difference in the house prices among the regions of Indonesia is dependent upon the demand and supply conditions and could be partially caused by differences in wages (Glindro al. 2011). Table 2 shows the average prosperous house price rising by more than 5% year-over-year from 2016 to 2018. The most expensive prosperous house in the country was sold in the Papua and West Papua region for IDR 205.000.000 in 2018. The role of local and central government in controlling the price of decent house for LIP has expanded over the years and influenced by the political policies. The most direct way of the government to relieve the housing cost burdens for LIP is by giving some subsidies including the subsidy of land.

Table 2 The prices of affordable housing set by the Decree of Minister of Public Works and Housing for the years: 2016, 2017 and 2018*

Region	Selling price by year (IDR)		
	2016	2017	2018
Java, except Jabodetabek	116.500.000	123.000.000	130.000.000
Sumatra	116.500.000	123.000.000	130.000.000
Kalimantan	128.000.000	135.000.000	142.000.000
Celebes	122.500.000	129.000.000	136.000.000
Moluccas	133.500.000	141.000.000	148.500.000
Bali and Nusa Tenggara	133.500.000	141.000.000	148.500.000
Papua and West Papua	183.500.000	193.500.000	205.000.000
Riau islands and Bangka Belitung	122.500.000	129.000.000	136.000.000
Jabodetabek	133.500.000	141.000.000	148.500.000

*Source: Decree of Minister of Public Works and Housing No. 552/KPTS/M/2016 dated on July 28, 2016. Noted that 1 USD = 14,000 IDR

Table 3 shows that the average prosperous flat prices per m² or per unit are different from one province to others depending on the prices of lands and building materials. The most expensive prosperous flat per m² in the country was sold in the Papua Province for IDR 15,700,000, then West Papua Province for IDR 10,700,000 and then Riau Islands Province for IDR 10,000,000 in 2016. Basically, the MPWH authority may have enough budgets by making a request to the President to build decent flats for the whole country to control the price of affordable housing for LIP in the urban areas.

Table 3 The prices of flat per m² or per unit set in 2016 by the Decree of Minister of Public Works and Housing*

Province/city/regency	Price by (IDR)	
	(m ²)	(unit)
Aceh	8,500,000	306,000,000
North Sumatera	7,800,000	280,800,000
West Sumatera	8,800,000	316,800,000
Riau	9,500,000	342,000,000
Riau Islands	10,000,000	360,000,000
Jambi	8,800,000	316,800,000
Bengkulu	8,000,000	288,000,000
South Sumatera	8,700,000	313,200,000
Bangka Belitung	8,900,000	320,400,000
Lampung	8,000,000	288,000,000
Banten, except South Tangerang City and Tangerang Regency	7,600,000	273,600,000
West Java, except Depok City, Bogor City, Bogor Regency, Bekasi City and Bekasi Regency	7,300,000	262,800,000
Central Java	7,200,000	259,200,000
DIY Yogyakarta	7,300,000	262,800,000
East Java	7,900,000	284,400,000
Bali	8,300,000	298,800,000
West Nusa Tenggara	7,400,000	266,400,000
East Nusa Tenggara	8,600,000	309,600,000
West Kalimantan	9,700,000	349,200,000
Central Kalimantan	9,400,000	338,400,000
South Kalimantan	9,800,000	352,800,000
East Kalimantan	9,900,000	356,400,000
North Kalimantan	9,000,000	324,000,000
South Sulawesi	7,800,000	280,800,000
Gorontalo	8,300,000	298,800,000
Center Sulawesi	6,900,000	248,400,000
South East Sulawesi	8,200,000	295,200,000
West Sulawesi	8,700,000	313,200,000
South Sulawesi	7,300,000	262,800,000
Maluku	7,600,000	273,600,000
North Maluku	9,600,000	345,600,000
Papua	15,700,000	565,200,000
West Papua	10,700,000	385,200,000
West Jakarta	8,900,000	320,400,000
South Jakarta	9,200,000	331,200,000
East Jakarta	8,800,000	316,800,000
North Jakarta	9,600,000	345,600,000
Center Jakarta	9,300,000	334,800,000
South Tangerang City and Tangerang Regency	8,400,000	302,400,000
Depok City	8,500,000	306,000,000

Bogor City and Bogor Regency	8,600,000	309,600,000
Bekasi City and Bekasi Regency	8,400,000	302,400,000

*Source: Decree of Minister of Public Works and Housing No. 552/KPTS/M/2016 dated on July 28, 2016. Noted that 1 USD = 14,000 IDR

The development of the principles of property ownership in the urban area should have a right to practice to scheme of mergers in the ownership of house and land by one owner (Fawaz and Moutaz, 2017). One unit of flat residence can get a portion of land in accordance with a proportional comparison value to each owner of shared multidwelling building. The application of the vertical attachment principles has been experienced resulting in a heavy burden for LIP because it needs to pay the prices of land and housing environment in order to bear all investment costs raised by the developers (Ball, 1994). Consequently, the price of decent house is becoming increasingly expensive for LIP in the urban areas to contribute to an increase in the housing backlog within a multi-dwelling building. In this case, the role of local government may be involved in releasing any targeted land from its owner for the development of decent flat with an affordable price for LIP.

4.3.2. Landless households

The landless households refer to privately-owned house detached from a legal regime of lands in the case of only horizontal separation where the ownership of house is different from landowner (Howard-Hassmann 2013; Khamaisi, 1995). The issues of landless households for the people who living in flat/apartement building can be investigated by granting full individual ownership of one dwelling unit within an apartment building with an undivided ownership interest in the land and other components of building shared in common with other owners of dwelling units in the building that known as communal right of the land (Antonio and Griffith-Charles, 2019; Wittayapak and Baird, 2018). The people who own or rent a dwelling unit in the apartment building don't have an ownership of the limited land due to one part of land has been used to build many dwelling units of the apartment building and other part of land used for public facilities. Legal certainty of the property ownership to foreigners can be assured in context from reliable sources by a registered deed to the property (Chhibber and Majumdar, 1999). Even though the people living in an apartment building is not traditionally practiced in Indonesia, the tendency of people in the big cities to buy and live in a dwelling unit of the apartment building will increase from the year to year due to the implications of population growth and urbanization for competitive demands for the use of the land. Legal model of property ownership can be developed for the provision of affordable housing for LIP. The establishment of land bank institutions can help the government to solve the issues of landless households by introducing a shared-ownership scheme of land and building usage. The possibility of obtaining the land supply to a land bank arrangement for the development of affordable housing doesn't ask to LIP to buy the land even though it is not popular in the eyes of many housing developers. It has been argued that most developers have a motivation to get only small profit from the services of land sales but are basically taking the profits as much as possible from the price of land (Austin, 2010). The government is overwhelmed to provide the land for the development of public infrastructures due to the land tenure by small group of the country's giant developers has been violating the principles of latifundia and absentee landowner as mentioned in the UUPA No. 5/1960. The involvement of land bank institution is needed to control the price of land provided for the development of landless housing

for LIP. Table 4 shows the simulation of land prices by playing the role of land bank institution as the land provider for the development of affordable housing for LIP.

Table 4 Simulation of landless housing prices in the Jabodetabek region*

City/Regency	House price based on the vertical accession principle by (IDR)		House price based on the horizontal separation principle by (IDR)		Saving (%)
	(m ²)	(unit)	(m ²)	(unit)	
West Jakarta	8,900,000	320,400,000	4,000,000	144,000,000	55.06
South Jakarta	9,200,000	331,200,000	4,500,000	162,000,000	51.09
East Jakarta	8,800,000	316,800,000	4,000,000	144,000,000	54.55
North Jakarta	9,600,000	345,600,000	4,500,000	162,000,000	53.13
Center Jakarta	9,300,000	334,800,000	4,500,000	162,000,000	51.61
South Tangerang City and Tangerang Regency	8,400,000	302,400,000	3,800,000	136,800,000	54.76
Depok City	8,500,000	306,000,000	3,800,000	136,800,000	55.29
Bogor City and Bogor Regency	8,600,000	309,600,000	3,800,000	136,800,000	55.81
Bekasi City and Bekasi Regency	8,400,000	302,400,000	3,800,000	136,800,000	54.76

*Source: The community paradigm development model of house ownership separated from the land to accelerate the provision of affordable housing for LIP. Final Report, University of Djuanda, 2016. Noted that 1 USD = 14,000 IDR

The development of five-story residential building to avoid a long elevator ride was referenced to calculate the prices of one dwelling unit within a multi-dwelling building (Al-Kodmany, 2015). One dwelling unit has a floor space of 36 m² to divide it into two bedrooms, one living room, one dining room and one kitchen. Establishing a reasonable land price for the Jabodetabek region as shown in Table 4 was calculated based on the average cost to build a five-story residential building. The property of one residential dwelling unit can be bought with an ownership title for a sales price of such as IDR 136,800,000 (IDR 3,800,000 per m²) based on the simulation of one dwelling unit price in accordance with the horizontal separation principle. Using the quality building materials in the construction of multidwelling building, whether they are first or second quality certified materials, can have the lifespan of five-story residential building over 60 years. By comparing the sales price (see Table 4) of one dwelling unit constructed based on the vertical accession principle to that constructed based on the horizontal separation principle can save more than 50% of income toward the necessity of affordable housing. Therefore, the involvement of land bank institution can help the government to properly manage the provision of lands in the Jabodetabek region for development of affordable housing for LIP. The accessibility of lands can reduce the housing backlog to LIP in line with the nation goals to achieve a better and more sustainable future for all citizens to enjoy peace and prosperity.

5. Conclusions

This study reviewed the legal basis, land use issues, land bank and land supply to get better understanding on the prevision of land for development of affordable housing for LIP. The practices of latifundia and absentee landowner in Indonesia can be minimized by involving the role of land bank institution. The establishment of land bank institution is considered as an effective way to supply enough lands and may help the government to solve the land-use problems to accommodate the needs of different interests. Many types of land tenure may be released from owners by the

local government in accordance with the law by involving the role of land bank institution to provide a legal certainty of the land acquisition for development of affordable housing for LIP and construction of infrastructures for public interest. The analysis of the landless housing prices for the development of five-story residential building in the Jabodetabek region can save more than 50% of income toward the necessity of affordable housing and this may contribute to support a decision making process in providing a cheaper price of decent house for LIP in the future.

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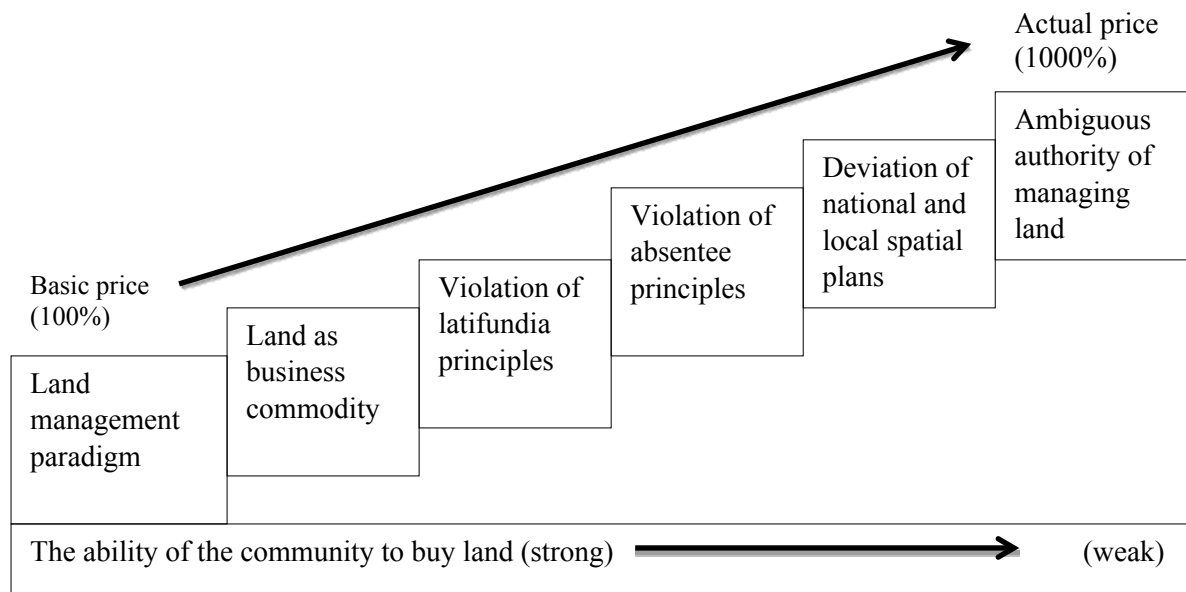


Figure 1 Increasing of the land price by many different things

Source: The community paradigm development model of house ownership separated from the land to accelerate the provision of affordable housing for LIP. Final Report, University of Djuanda, 2016.



Figure 2 Part of the palm oil plantations in Indonesia

Source: The community paradigm development model of house ownership separated from the land to accelerate the provision of affordable housing for LIP. Final Report, University of Djuanda, 2016.



Figure 3 Plan of the Jakarta bay reclamation and development

Source: The community paradigm development model of house ownership separated from the land to accelerate the provision of affordable housing for LIP. Final Report, University of Djuanda, 2016.

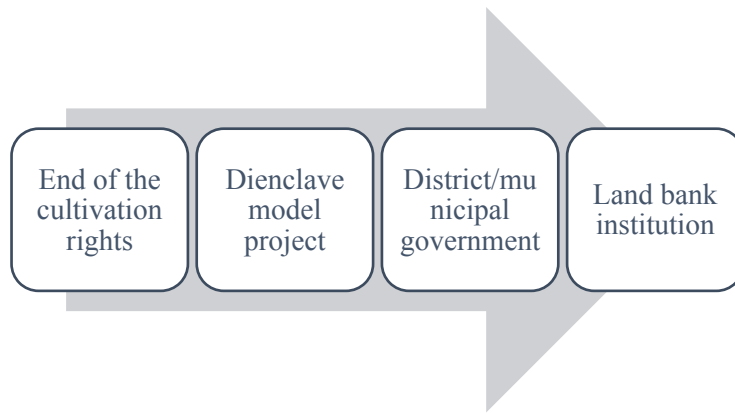


Figure 4 Dienclave model project of releasing the cultivation rights to LIP

Source: The community paradigm development model of house ownership separated from the land to accelerate the provision of affordable housing for LIP. Final Report, University of Djuanda, 2016.



Figure 5 Shared land of the Jakarta bay reclamation

Source: The community paradigm development model of house ownership separated from the land to accelerate the provision of affordable housing for LIP. Final Report, University of Djuanda, 2016.

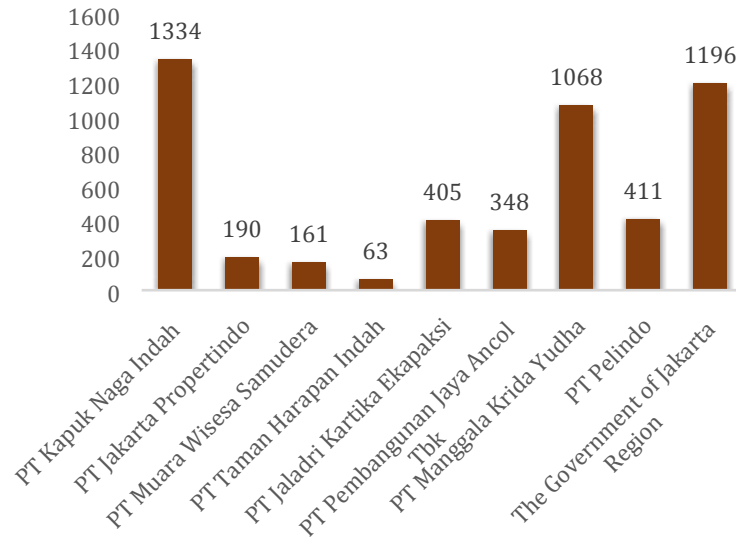


Figure 6 Land tenure areas of the Jakarta bay reclamation

Source: The community paradigm development model of house ownership separated from the land to accelerate the provision of affordable housing for LIP. Final Report, University of Djuanda, 2016.